From: Dillon, Andy (Treasury)
Sent: Friday, March 29, 2013 6:45 PM
To: Muchmore, Dennis (GOV)
Cc: Stibitz, Brom (Treasury); Wyant, Dan (DEQ)
Subject: Re: Flint

We grilled them on that quite a bit. There is a maximum guaranteed price on key construction items and the path allegedly presents limited risk- rural, thru areas w no gas or water lines, existing easements etc. I was the skeptic but view of my staff and deq was universal in favor of kwa. I was won over as well. I can't make a legitimate case that financially this is worse for Flint unless today's threat from Shank (DWSD will bill Flint for past capex) is real. We are sorting thru that.

I see lots of political downside as well. Community is invested in this.

Sent from my iPhone

On Mar 29, 2013, at 3:10 PM, "Muchmore, Dennis (GOV)" <muchmored@michigan.gov> wrote:

> How does Kurtz propose to protect them from cost overruns? Did they get a low ball price and how do we keep it from ballooning? Finally, what does that do to the sale value of DWSD?
>
> Sent from my iPhone

From: Dillon, Andy (Treasury)
Sent: Thursday, March 28, 2013 1:36 PM
To: Stibitz, Brom (Treasury); Wyant, Dan (DEQ); Saxton, Thomas (Treasury); Rustem, William (GOV); Muchmore, Dennis (GOV); Roberts, John (GOV)
Subject: Fwd: DWSD & Flint
Attachments: [Untitled].pdf

FYI

Sent from my iPad

Begin forwarded message:

> **From:** "Fausone, Jim" <JFausone@fb-firm.com>
> **To:** "Dillon, Andy (Treasury)" <DillonA2@michigan.gov>
> **Subject: DWSD & Flint**
>
> Andy - here is the information you requested. Let me know if you need more information. As we move into DWSD 2.0 without federal court supervision, I can hear the chanting "free at last…free at last" .Seriously this should make it easier to work things out with Flint and DWSD 2.0 if they want to work it out or get told to do it. Jim
>
> James G. Fausone
>
> [cid:image002.jpg@01CE2BAB.E4A45520]
>
> 41700 West Six Mile Road, Suite 101
> Northville, Michigan 48168-3460
> (248) 380-0000 tel. ext. 1818
>
> (248) 380-3434 fax
>
> jfausone@fb-firm.com<mailto:jfausone@fb-firm.com>
>
> www.fb-firm.com<http://www.fb-firm.com/>
>
> Check out our Legal Help for Veterans practice group at www.legalhelpforveterans.com<http://www.legalhelpforveterans.com/> or www.youtube.com/legalhelpforveterans<http://www.youtube.com/legalhelpforveterans>
>
> This message is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential and/or exempt from disclosure under

applicable laws. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and/or reply to the e-mail message. Thank you.

FAUSONE BOHN LLP

City of Detroit
Water And Sewerage Department
General Administration

735 Randolph Street
Detroit, Michigan 48226
www.dwsd.org

March 28, 2013

Andy Dillon, State Treasurer
Michigan Department of Treasury
Lansing, Michigan 48922

Dear Treasurer Dillon,

We understand that you are tasked with evaluating the merit for the City of Flint to cede from participation in the DWSD water system. For the following reasons, we represent to you that Flint's continuance in the present system is not only what is best for the City of Flint and Genesee County, but for the entire DWSD customer base.

Background

Water is provided by DWSD to the City of Flint via a 72" water main that runs west from a booster pumping station at Imlay City. Water purchased by Flint is then sold to its customers in the City of Flint and to Genesee County. The City of Flint and Genesee County are evaluating the construction of a new raw water supply system as members of the Karegondi Water Authority (KWA). The decision point is whether the City of Flint is best served by KWA or DWSD. Genesee County is not bound by Flint's decision. For this discussion, however, the emphasis is on Flint which encompasses its customer Genesee County.

The items presented below are based on a brief staff analysis of water quality, system capacity, capital, and financial considerations of the loss of Flint as a DWSD customer.

Water Quality

If the 72" water main is idled, there will be water quality issues for remaining customers on that line.

- ✓ The 72" main to feed Lapeer, Mayfield and Imlay City will need to be modified based on their comparatively low consumption at 12% of the flow. That pipeline will be too large to support the reduced demand which presents water quality issues.
- ✓ System users along the water transmission line in Lapeer, Mayfield, and Imlay City may experience water quality problems due to reduced disinfection levels associated with stagnant water. Solutions include abandoning the 72" main and replacing it with a smaller diameter pipe or adding facilities to re-chlorinate and disinfect the water a second time. The latter option is problematic because re-chlorination results in higher levels of disinfection byproducts.
- ✓ The Lake Huron Plant ("Plant") will require modifications to address water quality issues for Lapeer, Mayfield, and Imlay City. That cost is unknown.
- ✓ The Imlay Booster Station ("Station") will also need modification to feed Lapeer, Mayfield, and Imlay City. An estimated cost is $1 million.

- ✓ The true water quality impact would need to be confirmed through a study or the master planning effort. These concerns and alternatives are based on a brief analysis.

Excess Capacity of a Public Utility

- ✓ If DWSD is not supplying Flint with water, then there will be three high capacity pumps at the Station which will be significantly underutilized.
- ✓ DWSD currently has treatment capacity of 1.7 BGD, which is easily expandable to close to 2.0 BGD with infrastructure already in place at the Plant. Meanwhile current max day use of the DWSD System is only about 1 BGD.
- ✓ Although more than one DWSD facility is able to provide water to Flint, the reduction in use as represented at the nearest water treatment plant would result in excess capacity of up to 70% at the Plant.
- ✓ The water line servicing Flint is approximately 25 miles long (extending from Imlay City to Flint). That line would have no use if Flint joins KWA.

Impairment of Ratepayer Funded Assets

- ✓ Twenty-five miles of water line would likely be abandoned.
- ✓ Three pumps at the Station would also be idled.
- ✓ The net book value of the water line is at least $5M.
- ✓ In addition, improvements were completed at the Station in 2012 which serves Flint and other customers. The construction cost was $44 million.
- ✓ DWSD has in good faith preserved the terms and conditions of the 1965 service agreement with Flint which expired in 2000. Beginning in the 2000s DWSD and its wholesale water customers collaborated on a new model contract. Since that time, DWSD and 73 of its wholesale water customers have entered into new model contracts. The model contract provides for DWSD to recoup the costs of customer specific constructed facilities in the event that the contract is terminated.

Financial Implications to Other DWSD Ratepayers

The estimated immediate impact of the loss of Flint is an increase in rates to address a net revenue shortfall of approximately $22 million, or 6 percent of total DWSD water revenue. The long-term impact would require further analysis to evaluate the capital investment and increases in cost to address the operational concerns noted earlier. The immediate impact estimate is based on the FY 2013-14 DWSD financial plan as explained below.

- ✓ Flint volume (including Genesee County) represents approximately 7.4% of the suburban wholesale water sales, and 5.9% of the total water sales (including Detroit retail accounts) based on approximately 1.2 million Mcf of water sales.
- ✓ The allocated revenue requirement totals $24.23 million, which is approximately 8.3% of the suburban wholesale revenue requirement, and 6.6% of the total revenue requirement (including Detroit retail).

- ✓ At most, variable cost savings of not providing service to Flint is 7 to 10 percent, or roughly $2 million.
- ✓ The City of Flint's and Genesee County's revenue split is approximately equal. Loss of Genesee customers to KWA while maintaining the City of Flint as a customer would reduce the rate and dollar amounts above by half.
- ✓ DWSD ratepayers will incur the cost of operational changes at the Plant and the Station to address the water quality issues noted above, although charges to Flint during the KWA construction period would be evaluated.
- ✓ These amounts exclude the new capital investment for transmission piping for customers in the areas served by the Station and potentially at the Plant. Additional costs would be incurred to resize the water main to assure compliance with water quality standards.

Financial Risk

The ability to manage the financial risk for the City of Flint is especially precarious given its financial condition. As recently as yesterday, the frailty of the City's fiscal capacity is described by the present emergency financial manager in the Bloomberg News. The bottom line is that KWA's optimistic project with a cost of $272M ($82M attributable to Flint KWA's proposal) poses an undue financial risk to the public given that a system with reliable, excess capacity is readily available through DWSD. That risk is even greater based on the Tucker, Young, Jackson, Tull report that the KWA costs are underestimated by $100 million.

DWSD is undergoing monumental efforts to confront long-term operational and capital costs. The recent water rate adjustment was the lowest in decades, staff at all levels is actively involved in an organizational optimization process facilitated by EMA, there is an increased emphasis in long-term financial planning, and the transparency of these efforts is evident through more than a dozen customer-centric committees. Proactively addressing our borrowing costs and financial outlook is paramount to our mission. We understand the challenges that confront a public utility.

The bottom line is that Flint's financial flexibility will be impaired for generations by abandoning the DWSD system to participate in KWA. Duplicating the available capacity will expose them to a very large fixed cost obligation. As water utilities continue to experience reduced demand, the fixed costs component for capital, operating, and debt decrease the cost sharing base. For this reason, DWSD provides its customers the ability to adjust demand to control their costs.

Going Forward

DWSD is committed to the viability of Flint's water needs. Going forward there may be ways that DWSD can provide technical assistance and collaboration to the City of Flint. This includes methodologies to address its high water loss ratio, shut-off program, and capital planning needs. DWSD has fostered a strong customer community through its outreach program. We encourage Flint to become engaged with these resources. Finally, DWSD has demonstrated an earnest interest by offering service options specifically tailored for Flint's needs through a flexible contract approach. We look forward to reaching a long-term, viable solution to provide Flint a safe, reliable, cost-effective water system.

Sincerely,

Nicolette N. Bateson

Nicolette N. Bateson, CPA
Chief Financial Officer
Detroit Water & Sewerage Department

From: Dillon, Andy (Treasury)
Sent: Thursday, April 25, 2013 1:08 PM
To: Stibitz, Brom (Treasury); Saxton, Thomas (Treasury); Muchmore, Dennis (GOV); Roberts, John (GOV); Wyant, Dan (DEQ); George Karmo; David Guastella
Subject: Fwd: Responses to Questions from Flint received last evening
Attachments: DOC042513.pdf; ATT00001.htm

Sent from my iPad

Begin forwarded message:

> **From:** Matthew Schenk <schenk@dwsd.org>
> **Date:** April 25, 2013, 11:27:13 AM CDT
> **To:** "ekurtz@cityofflint.com" <ekurtz@cityofflint.com>, "Dillon, Andy (Treasury)" <DillonA2@michigan.gov>, "Scott, Allison (GOV)" <scotta12@michigan.gov>, "orrk@detroitmi.gov" <orrk@detroitmi.gov>
> **Cc:** jfausone <jfausone@fb-firm.com>, Sue McCormick <mccormic@dwsd.org>, Nicolette Bateson <bateson@dwsd.org>, William Wolfson <wolfson@dwsd.org>
> **Subject: Responses to Questions from Flint received last evening**
>
> Mr. Kurtz,
>
> Please find attached responses to the 11 questions sent by Flint last evening to DWSD. Also, attached are revised exhibits to reflect the proposed change to reserve 60MGD of capacity beginning in year 1 of the prposed contract.
>
> Please advise if you have any additional questions. We look forward to continue working with Flint on this important issue.
>
> --
> Matthew Schenk
> Chief Operating Officer/
> Chief Compliance Officer
> DWSD
> City of Detroit
> Dave Bing, Mayor
> (313) 224-4707

DWSD's responses to Flint's Questions

April 25, 2013

Question 1: How does this proposal conflict with Article 14 ("Ensuring Equality of Contract Terms") of the existing contracts, which will result in a re-shuffling of cost and bring Flint/GCDC back to its original costs?

Response: This proposal is fully consistent with Article 14 of the Model Water Contract. Specifically, Article 14 provides that any existing customer can receive the benefit of a future contract provided to a different customer *provided that the existing customer assumes all of the new contract terms*. In other words, an existing customer cannot select one or two more preferable provisions without accepting the remaining terms that could be viewed as less preferable.

DWSD's proposal to Flint/KWA is unique in several aspects that would likely not be attractive to other existing customers of the system. Most notably, DWSD's proposal to Flint/KWA not only relieves DWSD of any financial obligation to provide redundancy for water service, but it also requires the customer to maintain its own treatment plant for redundancy. Additionally, the Flint/KWA proposal develops a fixed cost for the customer to guarantee a minimum capacity over the life of the contract. DWSD's other contracts allow for adjustments both up and down based upon changes in demand.

Question 2a: To compare apples to apples, KWA provides 60 mgd capacity. DWSD only provides 40 mgd. Will DWSD require purchase of 60 mgd capacity today or can we purchase 40 mgd today and reserve 20 mgd for later? Is there a premium penalty or no additional cost?

Response: The DWSD Proposal provides 60 MGD capacity in a stepped fashion consistent with the specification, providing Flint/GC the ability to adjust for actual growth rather than incur a larger initial obligation. Given the excess capacity in the system, there is little likelihood that capacity would not be available if and when it is needed by Flint/GC. However, Flint/GC may reserve 60 MGD capacity throughout the contract term. The new exhibits attached and dated 4/25/13 have been revised to reflect a contract reservation of 60 MGD throughout the term of the contract and would replace Exhibit 1 and Exhibit 3 previously provided.

Even with the reservation of this additional capacity, the total Water Utility Costs through 2042 are only $3,215.04 million, or $908.85 million less than the KWA scenario. This would result in a 37% decrease in rates for Flint in year one from current rates. This relative decrease would grow over the life of the contract.

Question 2b: Will DWSD stipulate that our cost cannot be increased due to regionalization?

Response: This broad question covers a number of topics. First, DWSD has proposed a contract cost structure that includes fixed charges to the greatest extent possible consistent with State Law. This structure provides significant protection from future rate increases. As was indicated by Mr. Kevyn Orr during our meeting on Friday, April 19, 2013, it is the view of DWSD and the City of Detroit that there will be a strong business case to justify suburban wholesale customers participating in any payment stream to the City of Detroit based on finance cost improvements associated with DWSD becoming a regional authority. Additionally, if Flint participates in the governance structure of the new Authority, it will be part of the deliberative process to agree upon the payment stream.

Question 3: DWSD indicated that the current capital improvement plan only includes replacement of one low lift pump. It has also come to our attention that the DWSD is contracting for a new capital improvement plan as of April 24, 2013.

Response: DWSD's CIP is updated annually. On April 24, 2013 the Board of Water Commissioner's (BOWC) approved a contract for an update to the Water Master Plan. The Water Master Plan is anticipated to provide insight relevant to future CIP's including asset management strategies that would extend the life of existing assets for the lowest NPV, however, the CIP is a separate and distinct effort.

Question 4: How old is the current CIP? Will Flint have input on the CIP? Please provide a better definition of "level of control" as used in your letter.

Response: The CIP is updated annually and on a schedule that is timed to run concurrent with development of the Annual Budget. The current CIP was adopted by the BOWC on January 23, 2013.

Question 5: What happens if substantial changes occur to the Port Huron Plant/Pipeline for the benefit of other customers?

Response: DWSD acknowledges that it is possible that there are investments in the Lake Huron system that might be made solely for the benefit of other customers of the DWSD system. Should investments of this nature be made, their cost would be excluded from the calculation of Flint's obligations. It is also possible that investments in the Lake Huron system might only benefit the Flint/GC Back up supply. Should this occur, any such adjustment would affect a minor component of the overall costs to Flint.

Question 6: Please explain why we are 20% of "other" (meters, outreach etc. – 7.5, 125, 25, 20%, 1.5).

Response: The 20% allocation of cost is a flow proportional allocation.

Question 7: If Lapeer is not part of the system, are we 100% of pipeline?

Response: Yes, if the GLCUA flow is removed from the line, Flint's flow requirement is 100% of the flow on the section of transmission main west of Imlay City.

Question 8: If we are responsible for 100% of the capital of the pipeline and 100% of the operations of the pipeline, why not turn it over to Flint? What would be the sale price?

Response: While it is not totally clear to DWSD what the question envisions in terms of the definition of the "pipeline" proposed to be sold to Flint, DWSD has in prior proposals and continues today to be open to discussing the opportunities to sell infrastructure to Flint/KWA as part of a long-term public/public partnership contractual arrangement. In prior proposals, offers specific to the 72 inch transmission main envisioned such a potential sale subject to more specific negotiations which might include reservation of wheeling rights to DWSD to service additional customers, address issues of competition associated with the use of the asset, etc.

While DWSD remains open to discussion, given the nature of the transaction, it is not possible to specify a purchase price or other terms at this time.

Question 9: When would this rate become effective, July 1, 2013 or July 1, 2014?

Response: The proposal indicates that these rates and charges are available as early as July 1, 2014. Rates and Charges for the FY beginning July 1, 2013 have already been adopted by the Board of Water Commissioners as necessary to meet the system's overall revenue requirements.

Question 10: As part of the discussions on Friday, April 19, 2013, should Flint/GCDC separate from Detroit, would DWSD be willing to enter into a contract extension for water supply during the construction period (3 years)? At what cost or premium would DWSD charge? And what is the basis for that charge?

Response: Again, this is a rather difficult question to answer with any specificity. As you may be aware, pursuant to Judge Sean F. Cox's order of November 4, 2011, the Board of Water Commissioners has full and final authority to approve rates for all suburban customers of DWSD. DWSD would certainly be willing to provide interim service to Flint during the construction phase of KWA on terms and rates as established by the Board of Water Commissioners. To the extent that your question is seeking clarification on the portion of charges that would be attributable to "stranded costs," I would refer you back to the letter dated April 24, 2013 that I sent to State Treasurer Dillon, with a copy to Ed Kurtz. Please keep in mind that the rates charged during the interim period would be consistent with state law requirements that would prohibit DWSD from charging rates that would generate a "profit" for DWSD.

Question 11: Would DWSD be willing to sell the section of pipeline from Imlay to Baxter and Potter if Lapeer also joins KWA? What would the cost be? If DWSD is willing to sell the pipeline, would they be willing to sell water to KWA on a standby basis? If so, what would be the cost?

Response: As stated previously, DWSD would be willing to look at opportunities to sell certain sections of pipeline to Flint as part of a public/public partnership arrangement.

Should Flint opt to join KWA and no longer be a customer of DWSD, DWSD would still be willing to look at opportunities to sell existing pipeline to Flint, with appropriate reservations of wheeling rights and non-compete clause language.

With regards to DWSD's interest in entering negotiation for potential standby service to KWA, should Flint leave the DWSD system, DWSD has previously indicated that we are open to discussion. Pricing of standby service in this proposal for a public/public partnership is on a significantly discounted basis as reflected in the attached Exhibit 1, page 2. DWSD has not calculated what a standby charge might be as related to the unspecified requirements to another utility.

Attachments

EXHIBIT 1
Calculation of DWSD Water Rate to KWA
Hypothetical FY 2013-14 Rate Structure

			Annual Rev Req't (millions)	Unit Basis	Units		Avg Unit Cost		Rate Structure	
1	Capital Revenue Requirements	$	7.98	months	12			$	665,100	per month
2	Operating Revenue Requirements	$	4.40	Mcf	1.220			$	3.61	per Mcf
3	Subtotals / Avg Unit Cost	$	12.38		*1.220*	*$*	*10.15*			per Mcf
4	Standby Charge	$	3.32		12			$	276,900	per month
5	Totals / Avg Unit Cost	$	15.70		*1.220*	*$*	*12.87*			per Mcf
6	Total Monthly Charge							**$**	**942,000**	**per month**
7	Total Commodity Rate							**$**	**3.61**	**per Mcf**
8	*plus: Redundancy Solution (a)*	*$*	*8.59*		*Not a DWSD Cost*					
	(a) Redundancy Solution Calculations									
9	*Cost of Redundant Line*	*$*	*94.68*							
10	*Issuance Expenes, etc.*	*$*	*2.18*							
11	*Required Financing*	*$*	*96.86*							
12	*Finance Rate*		*5%*							
13	*Finance Term*		*25*							
14	*Annual Payment*	*$*	*6.87*							
15	*Debt Svc Coverage*		*125%*							
16	*Annual Revenue Requirement*	*$*	*8.59*							

EXHIBIT 1

Allocation of FY 2013-14 Revenue Requirements

		"LH System"		KWA Communities		
		Revenue Req't *$ millions*	Capacity / Usage *mgd*	Capacity / Usage *mgd*	Relative Share *%*	Revenue Req't *$ millions*
	Capital Cost Recovery					
1	Treatment - LH WTP	30.35	400	60	15.0%	4.55
2	Pipeline - LH to Imlay	1.35	440	64	14.5%	0.20
3	Imlay Station	6.85	440	64	14.5%	1.00
4	Pipeline - Imlay to Baxter/Potter	0.74	64	64	100.0%	0.74
5	Other (Meters, Outreach, etc.)	7.50	125	25	20.0%	1.50
6	Total Capital Cost Recovery	46.79			*17.1%*	7.98
	Operating Costs					
7	Treatment - LH WTP	15.02	125	25	20.0%	3.00
8	Pipeline - LH to Imlay	0.29	125	25	20.0%	0.06
9	Imlay Station	4.51	125	25	20.0%	0.90
10	Pipeline - Imlay to Baxter/Potter	0.23	25	25	100.0%	0.23
11	Other (Meters, Outreach, etc.)	1.02	125	25	20.0%	0.20
12	Total Operation and Maintenance	21.07			*20.9%*	4.40
	Annual Revenue Req't					
13	Treatment - LH WTP	45.37				7.56
14	Pipeline - LH to Imlay	1.64				0.25
15	Imlay Station	11.36				1.90
16	Pipeline - Imlay to Baxter/Potter	0.96				0.96
17	Other (Meters, Outreach, etc.)	8.52				1.70
18	Subtotal DWSD Revenue Req't	67.87				12.38

Calculation of Standby Charge

		Total	LH System	Other
19	Capacity - mgd	1,760	400	1,360
20	Total "Backbone" Capital Costs - $millions	227.54	46.79	180.75
21	Unit Capital Costs	0.129	0.117	0.133
22	Standby Requirements = Average Day			25
23	Standby Revenue Requirement - $millions			3.32

EXHIBIT 2
DWSD Water Supply Costs Estimates to Flint

Option	**Water Supply** Costs ($) through 2042	Ranking by Cost
DWSD 4/23/2013 Proposal	328,669,100	1
DWSD 8 MGD Max Day @ Imlay	634,795,500	2
*KWA (10/31/12 No Overruns, As Provided) **	649,775,200	3
DWSD 8 MGD Max Day @ Baxter / Potter	672,671,700	4
KWA-1 (10/31/12 No Overruns with Financing Costs)	707,279,700	5
DWSD 12 MGD Max Day @ Imlay	725,576,800	6
DWSD 12 MGD Max Day @ Baxter / Potter	762,110,300	7
KWA-2 (Treasury Estimate)	766,784,300	8
DWSD 12 mgd Twin Line Proposal / No blending	818,092,200	9
DWSD 18 MGD Max Day @ Baxter / Potter	821,226,300	10

Italicized Options as presented in TYJT Report
Only reflects estimated WATER SUPPLY Costs.

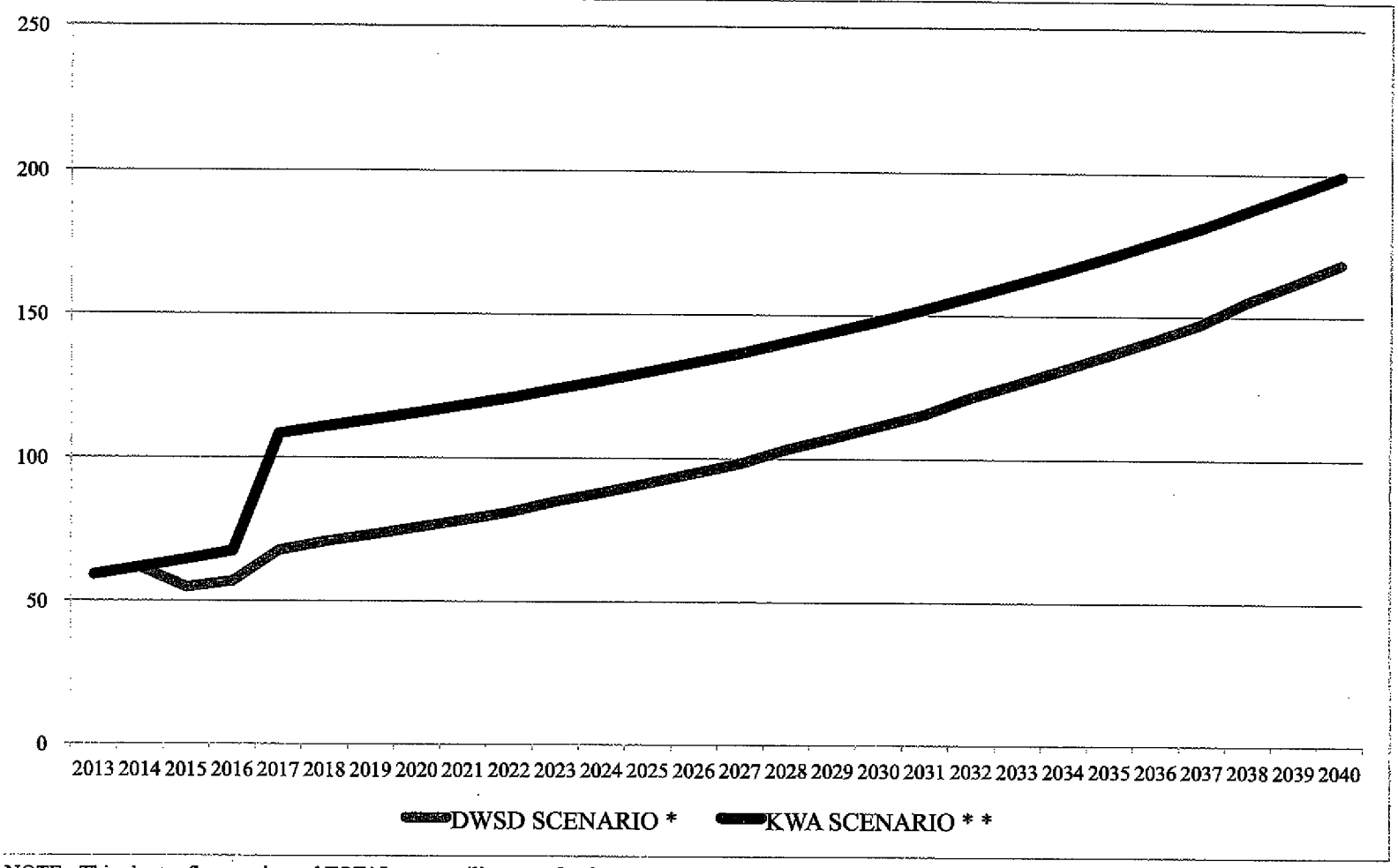
DWSD Water Supply Costs Estimates to Flint / GCDC
$ millions

	Total Water Costs ($) through 2042	
DWSD 4/23/2013 Proposal	3,215.04	1
Estimate of KWA Scenario	4,123.89	2

Reflects ALL WATER UTILTY costs, including local Flint / GCDC requirements.

EXHIBIT 3

SUMMARY OF **TOTAL** PROJECTED WATER COSTS TO FLINT/GCDC - SCENARIO COMPARISON *($ millions)*



NOTE - This chart reflects estimated TOTAL water utility costs for the KWA Service Area, including local requirements of the Flint and GCDC Systems.

* Includes current annual capital costs for purchase of capacity in current LH System, based on escalated capacity from specifications. Does not include any additional future LH System capital costs. Includes LH System operating costs and standby charges for the rest of the System.

** It has come to our attention that the KWA Scenario will require construction of 14 days of raw water storage. Costs associated with such a project have not been published and are not included in this comparison.

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, October 28, 2015 9:09 AM
Subject: FW: Facility Notification: Constitution Hall

Dear DEQ Lansing Staff,

Please read the security notification below from DTMB as you may not have received it this morning. Thank you.

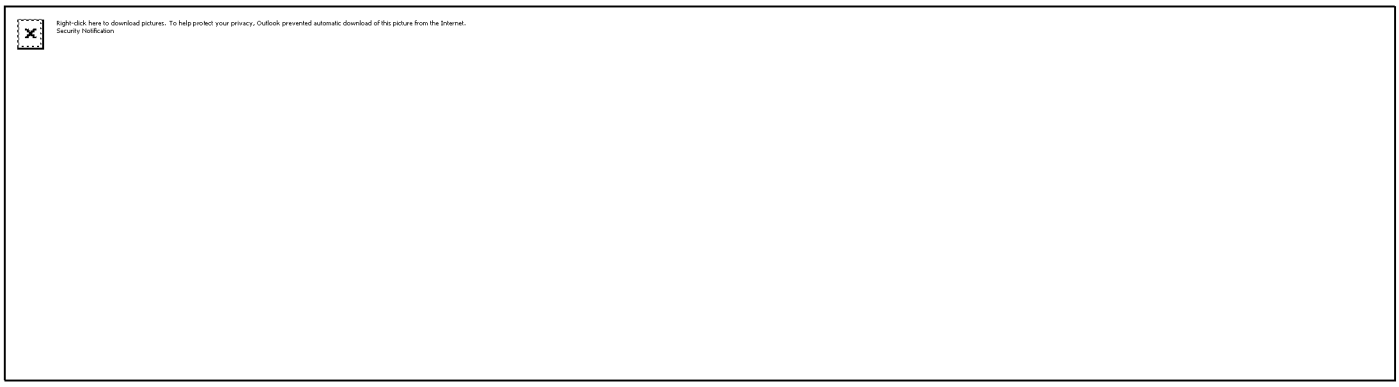
Judy and Brenda, please also send to DNR and DARD. Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

Begin forwarded message:

From: DTMB Facilities <dtmb@govsubscriptions.michigan.gov>
Date: October 28, 2015 at 8:17:10 AM EDT
To: <haglerg@michigan.gov>
Subject: Facility Notification: Constitution Hall
Reply-To: <dtmb@govsubscriptions.michigan.gov>



Protest Activity

Date/Time:

Wednesday, October 28, 2015 from 12:00pm to 4:00pm

Details:

Please be aware that there is a protest event planned for today, October 28, outside of the Constitution Hall from 12:00pm to 4:00pm. The event is being held in response to the water condition in Flint. Please plan your daily activities with this in mind as a large turnout for this event is anticipated. DTMB and MSP will be working together to monitor the situation.

Contact:

DTMB Customer Service Center, DTMB-Customerservice@michigan.gov or 517-373-6227

This email was sent to haglerg@michigan.gov using GovDelivery, on behalf of DTMB · Lewis Cass Building · 320 South Walnut Street · Lansing, MI 48933 · 517-373-1004

From: Wyant, Dan (DEQ)
Sent: Saturday, December 13, 2014 2:11 PM
Subject: December 1, 2014, SMT Highlights - Message from Director Dan Wyant
Attachments: IMTDream Team slide FINAL .pdf; IMT Summary report for DEQ SR 11242014 .pdf; 4DX One Year Later.pptx

Dear DEQ Staff,

Below is the information from the December 1, 2014, Senior Management Team (SMT) meeting. If you have any questions or need clarification, please contact your division/office management directly.

DEQ SENIOR MANAGEMENT TEAM MEETING NOTES

Director's Report

Future SMT Meetings:
Division/Office chiefs may be asked to attend the Executive Division 8:00 Monday morning staff meetings on a rotating schedule. Also, division/office chiefs will be asked to prepare presentations to the SMT on priority key issues on a rotating basis as well. This will give an opportunity for the other division/office management team and the executive team to react and provide comments. A schedule will be available prior to January 2015.

Future 1 on 1 Meetings with the Divisions/Offices:
Mary Beth will work with your division/office in December to schedule division/office meetings with your management team to go over division/office priorities, budget, and policy and legislative changes that may be needed. Please also include your division/office management team once they are scheduled. These will be scheduled for January/February.

The Director discussed his upcoming priorities:

- Culture Change
    - Engagement
    - Leadership
    - Compliance Assistance
    - Customer Service
    - Enforcement Policy
- Fundamental Programs
    - Air
    - Remediation for Redevelopment (R4R)
    - Waste
    - Water
    - Natural Resources Industries
- Technology
- Communication
- Economic Development

We will continue to focus on our 3 guiding principles and to be the best department in state government. We will continue to package Telling Our DEQ Story, focus on economic development,

oil and gas, redevelopment, recycling, and many other items listed above that will help us obtain long term funding.

Some of the following items have crossed the Director's desk this past month:

- 111d update - comments are due on December 1 and we are working with AQD to send these comments to the U.S EPA. A copy will be available on the Web site.
- Ozone Transport
- City of Flint Drinking Water
- Enforcement Policy
- Proposed Director's Advisory Council
- Future Grant Summit
- Communications
- Action Learning Teams
- Water Use
- Water Strategy
- Urban Oil and Gas Workgroup
- New Legislators
- Budget
- Update on Great Lakes Pipeline Task Force Council
- Enbridge
- Sappi Paper
- One Voice Document
- 201 Amendments
- 201 Criteria Workgroup
- Compliance Assistance/Customer Service/Employee Engagement
- Part 5

Deputy Director's Report

Deputy Director Jim Sygo announced a new Information Technology Section within the Administration Division:

- Creation of IT Section in Administration Division (Mike Beaulac, Bonita Sporer, and Deb Sweet)
- Provide increased priority on IT needs and address department needs
- Leverage staff skill sets within Administration Division

Deputy Director Jim Sygo also asked that the division/office chiefs prepare their performance objectives within the next two weeks. Included will be performance objectives on customer service and a Compliance Assistance Plan for each division and office chief.

4DX Presentation by George L. Krisztian

George Krisztian gave a great presentation on the laboratory and how they implemented The 4 Disciplines of Execution. The Wildly Important Goal (WIG) was to change the turnaround time, price, and quality to be as excellent as possible. Attached is his Power Point. This process has worked well and all divisions/offices are encouraged to use this process. The process engages staff on a project or objective. George provided excellent examples. This process takes 100 percent commitment and it works well. The Executive Division has copies of "The 4 Disciplines of Execution" available for borrowing. If interested, please contact Rosemarie Olszewski at 517-284-6700.

Legislative

Maggie Datema reported that we are working on legislative bills this week pertaining to Part 201 changes, the Refined Petroleum Fund, Urban Oil and Gas, and Scrap Tires. For the rest of the year, legislative sessions will occur through December 18, 2014.

Action Learning Team Presentation

An Action Learning Team of the 2014 Leadership Academy presented their project to the SMT. Their project focused on Incident Management Teams. Detailed summary background documents are attached for your information and interest. Discussion followed and outcomes of this team will be reviewed further.

Information Technology

Web Site Redesign

The Sustainability category of DEQ's Web site is now new and improved. This new interface is the product of the DEQ Web Redesign project. A better Web site was the top action step identified by the SMT to improve overall customer service. Easier access and more user-focused material will boost public perception of the DEQ's work, provide greater online access to important information, and support the Department's customer service mission.

Improvements began this fall after experts conducted an inventory of Web site pages and a user-validated information architecture for the DEQ site. As additional changes are rolled out in the next several months, you will notice top level categories will reflect media – not DEQ's organizational structure. You will also notice consistency in subcategories which will ease user navigation throughout the site. Ultimately, language will be tailored to the user and links will be improved. The site will be fully documented which will aid in on-going content management.

The project is a coordination of efforts among eMichigan, subject matter experts, IT staff, and the Web Redesign Team: Madhu Anderson, Mike Beaulac, Deb Sweet, Bonita Sporer, and Carin Sodeman, the lead facilitator.

Office of Human Resources

Human Resources

1. Retirement Seminars – Tami Eyer has taken a poll of DEQ division chiefs regarding retirement seminars and how we were allowing staff to attend these, whether we were requiring them to use administrative leave or allowing them to attend on regular work time. The answers Tami Eyer received were varied so she polled other HR offices to see how other agencies were allowing staff to attend these one-on-one seminars. She discovered that Administrative Leave should be used when the employee requests the time off, the department supports the time; however, it is not necessarily a direct "benefit" to the department. A good example of allowing Administrative Leave would be donating blood here in Con Hall, it meets the three criteria listed above and it is the "right thing to do". Regular time should be used when it directly impacts or benefits the department, i.e., Civil Service training. So, Jim Sygo and Tami Eyer decided that employees requesting to attend the one-on-one sessions with VOYA (the new ING), we would allow a one-time session using Administrative or Regular time but any requests after that should be on their own time (annual leave).
2. Disability Management Office (DMO) – there will be some changes regarding how we handle medical leaves, FMLA, etc. from HR. Cathy Feldpausch will no longer be the liaison between QOL and DMO. Effective immediately we need to encourage employees to call the DMO directly at 877-766-6447, option 2, or locally at 335-5794, option 2. If they do not get the answers or support they need from the DMO, they may call the QOL HR office.

Division/Office Chief Reports

Air Quality Division
See Director's comments on 111(d).

Remediation and Redevelopment Division
The DEQ and the Washtenaw County Environmental Health Department conducted sampling of 90 private residential wells in Scio Township near the Gelman site to look for possible migration of 1,4-dioxane. The results of the well monitoring are in, and no 1,4-dioxane was detected in any of the 90 water supplies sampled. The detection limit for those samples was 0.001 mg/L, or 1 ppb. Six water supplies were also sampled for volatile organic compounds (VOCs) due to their proximity to a different potential contamination site. Two of those six supplies were found to contain a trace amount of 1,1-dichloroethane (1,1-DCA), less than the laboratory's minimum reporting limit of 0.0005 mg/L (0.5 ppb). Please note that the DEQ's drinking water criteria for 1,1,-DCA is 0.880 mg/L (880 ppb). The full sampling results will be posted on the DEQ Web site.

The RRD Executive Section will be developing a Wildly Important Goal for fiscal year (FY) 2015 and holding periodic WIG meetings to report progress.

In the Grand Rapids district, work is scheduled to begin this week on removal of the Muskegon pipeline in Bridgeton, Michigan.

Office of Oil, Gas, and Minerals
The OOGM will be holding a public meeting on December 9, 2014, to provide information and receive comments on the OOGM application for primacy of the federal Underground Injection Control program. We are finalizing a proposed permitting instruction to add requirements for oil and gas drilling in urban areas, and waiting to see what will happen with legislation on the issue. OOGM has made some final revisions to the proposed rules on high-volume hydraulic fracturing and is preparing the JCAR report.

Administration Division
Internal Control Evaluation (ICE)
Each department is required by law to complete an internal control evaluation every two years. The process is defined by the DTMB Office of Internal Audit Services. The first step in the process is for program areas to complete a Risk Assessment Worksheet, which includes 16 criteria used to rank the risk of the program. The worksheets have been completed by 45 program areas. The second step in the process is for the 15 programs with the highest scores to complete a Risk, Control Activities, and Monitoring (RCAM) evaluation form. The Office of Internal Audit Services will be providing training on December 4, 2014, for budget liaisons and program contacts for the 15 programs impacted. RCAMs are due back to the Administration Division by January 9, 2015.

2014 Year-End Closing
The books are officially closed for FY 2014. DEQ spent all but eight cents of our general fund. Thank you to all budget liaisons for their hard work in assuring a successful year-end closing. The MDOT Accounting Service Center indicated DEQ was a model department.

2016 Budget Development
Much of the budget focus at this time is on legislation pending this calendar year and potential transportation funding. No decisions have been made regarding the proposal for change submissions sent to the State Budget Office.

Cost Allocation

The DEQ dedicates $26 million annually of General Fund and restricted funds to support DTMB costs for IT services, building occupancy, and rent as well as DEQ costs for the Executive and Administration Divisions. In addition, a federal indirect rate of 12 percent is applied to federal grants received. The majority of the federal indirect revenue is deposited in the General Fund. In 2016, DEQ will be able to maintain more of the federal indirect revenue and offset the costs charged to restricted funds. Specific division impact will be shared in the upcoming weeks.

Budget Liaison Meeting
Administration Division staff and division/office budget liaisons will be meeting on December 17, 2014, to discuss what worked well over the last year, what opportunities there are to improve, and what steps need to be taken to best position DEQ for implementation of the SIGMA project, which will replace the State's financial system as well as DCDS.

Office of Drinking Water and Municipal Assistance
Richard Benzie has accepted the Field Operations Section Chief position. This vacancy has rotated as an acting position for the last two years. We are pleased that the position will now be filled going forward.

The ODWMA also shared that with the support of Carrie Hardigan (OWMRP), we completed a LEAN process improvement evaluation of the campground license renewal process and we are now underway with a LEAN process improvement review of the revolving loan disbursement process.

Office of Waste Management and Radiological Protection
Compost Operations Workshop: Composting in Southeast Michigan has been challenging for some time, in part, because some operations are not well managed. The recent flood presented a number of new challenges to the DEQ. As such, composting training will be provided in concert with OEA and WRD in Detroit on December 4, 2014. Composting regulatory information and best management practices will be presented.

Recycling: The OWMRP has completed interviews for the four Recycling and Waste Minimization Specialists. These positions will provide on-site training, outreach, and technical assistance to enhance recycling efforts. The successful candidates and their respective district responsibilities are:

1. **Noelle Grain** – Southeast Michigan
2. **Brian Burke** – Saginaw Bay, Cadillac, Marquette
3. **Katie Venechuk** – Grand Rapids, Kalamazoo
4. **Emily Freeman** – Lansing, Jackson

Office of Environmental Assistance
Employee Engagement
The first meeting for the Employee Engagement One Voice Team (Team) will occur on December 1, 2014. The Team is led by Amy Peterson and Kelly Ploehn. Members of the Team include Jeremy Boyd, Dan Chamberlin, David Kline, Meredith Hartmann, Michelle Selzer, Fred Sellers, Dan Dailey, Amy Robinson, Bob Byrnes, Amy Abdo, Bethel Skinker, Jaclyn Merchant, Karen Edlin, Alana Berthold, Alisa Gonzales-Pennington and Karen Tommasulo. The next meeting is scheduled on Friday, January 9, 9:00-11:00.

Office of Great Lakes
An event was held on November 14, 2014, regarding the Deer Lake Areas of Concern.

Water Resources Division

A letter has been received from the U.S. EPA regarding Water Act Section 404 Program revisions related to enactment of Public Act 98. Bill Creal will provide a copy to the Water Resources Division and appropriate other DEQ staff.

Other Items

Jim Kasprzak, Chief, Administration Division has announced his retirement effective January 31, 2015. Congratulations to Jim on his decision . A retirement open house will be held late January 2015.

Five DEQ staff members attended the Dr. Glen Pfau training on December 1-3, 2014.

Next Meeting: December 15, 2014

Enjoy the holiday season.

Thank you.

Dan Wyant
Director

Attachments

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, October 14, 2015 2:27 PM
To: Busch, Stephen (DEQ);Krisztian, George (DEQ);Rosenthal, Adam (DEQ);Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ)
Subject: RE: Preliminary and Deliberative not subject to FOIA: Information Request
Attachments: AGENDA for Today's Call on Flint; Agenda for MI Semi-Annual Call on Wed 6/10 at 10am EST; 9am CST; Fw: Flint Corrosion Control?

Attached in the agenda received from EPA on 7/21/15 – it is related to the e-mail Steve included without a date.

The agenda for the 6/10 call is also attached.

I think seeing the agendas is helpful to understand EPA's perspective and inquiries at the time.

The third e-mail I've included is between Pat Cook and Miguel Deltoral, EPA. This e-mail includes Pat's explanation regarding our approach to managing the LCR (lead copper rule) in Flint.

From: Busch, Stephen (DEQ)
Sent: Wednesday, October 14, 2015 11:36 AM
To: Krisztian, George (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: RE: Preliminary and Deliberative not subject to FOIA: Information Request

George,

Attached are emails with notes related to conference calls with EPA region V that I have and provide further discussion regarding Flint. Liane could still have additional material.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Krisztian, George (DEQ)
Sent: Wednesday, October 14, 2015 10:57 AM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: Preliminary and Deliberative not subject to FOIA: Information Request
Importance: High

Liane,

As a follow-up to our conversation yesterday, I need a copy of the write up that EPA provided to your group for the conference call that was held after Steve's e-mail of February 27, 2015.

Thank you!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph **PPI**

From: Hyde, Tinka <hyde.tinka@epa.gov>
Sent: Tuesday, July 21, 2015 9:07 AM
To: Shekter Smith, Liane (DEQ)
Cc: Poy, Thomas;Bair, Rita;Damato, Nicholas
Subject: AGENDA for Today's Call on Flint
Attachments: Agenda for MDEQ Call on Flint 7-21-15.docx

Hi Liane – In preparation for our call today we've prepared an agenda (attached) with some background and discussion points. Please let me know if you have other items you wish to discuss. Thanks

Tinka G. Hyde
Water Division Director
USEPA W-15J
77 W. Jackson Blvd
Chicago, IL 60604

Office: 312-886-9296
Cell: PPI

Briefing Paper for Call with MDEQ on July 21, 2015
MDEQ Implementation of LCR Rule and Flint Issues

Issue #1: Is there a public health concern regarding lead in Flint or other regulatory requirements?

- Under State policy ODWMA-399-027, the wholesale system is responsible for corrosion control treatment. Detroit, as the wholesale system, was providing this for Flint. When Flint changed to no longer be a consecutive system, and instead using the Flint River as its water source, it did not begin its own corrosion control program and is not currently practicing corrosion control treatment at the Water Treatment Plant.
- Prior to the change from being a consecutive public water system to the Detroit Water and Sewerage Department (DWSD) system and associated switch in source water, the City of Flint was conducting LCR sampling every three years. Due to the switch in water sources, the Michigan Department of Environmental Management (MDEQ) required the City of Flint to increase the number of monitoring sites from 50 to 100 sites for two consecutive rounds of monitoring (July through December 2014 and January through June 2015).
- The first round of samples after switch-over from DWSD (July 1, 2014 – Dec 31, 2014) had 90th percentiles of 6 ppb for Lead and 110 ppb for Copper.
- As of June 30, 2015, we believe MDEQ received all 100 sample results from the second round of monitoring and is incorporating citizen-requested sample results that meet the Tier 1 criteria.
- HQ confirmed, per the Water Supply Guidance #174 that citizen-requested sample results should be included in the 90th percentile calculations.
- We believe that the results of the two rounds of sampling will support an exceedance of 5 ug/l. This will result in the need for a corrosion control study, but not public education.
- Flint plans to switch to another source in 2016 making the corrosion control study timing complicated.
- Compliance with other regulatory requirements: Appears to be doing fine with Stage 2 DBP rule and re-characterizing the distribution system based on the new source of water, but not sure about LT2 compliance for first round monitoring for cryptosporidium. We'd want to ask if Flint had existing data on Crypto for the Flint River (they would be allowed to grandfather data for the 1st round of sampling). If not, they'd need to start sampling as soon as possible to get 1st round crypto results). If they did have old data, they'd still be expected to start a 2nd round of Crypto monitoring already (April 2015 – since Flint's population is still above 100,000).

Discussion Items:

Criteria for large systems (serving >50,000 persons) to install/ maintain corrosion control treatment:	**Action Level (AL) Exceedance:** If exceed Pb AL of 0.015 mg/L expressed as 90th percentile level based on samples at tap:
If 90th percentile tap lead value minus source water lead value greater than or equal to 0.005 mg/L	• Corrosion control treatment steps • Source water treatment steps • Public education • Lead service line replacement *(if continue to exceed Pb AL after installing treatment)*

- **Discuss most recent 2 rounds of 6-months monitoring results and 90th percentile calculations and inclusion of the citizen-requested samples.**
- **Based on results, what are the next steps?**
- **Set the stage for why we are concerned about lead levels – since Flint is not feeding phosphate and the lead, phosphate, and cadmium are tracking, the phosphate is likely coming off the pipes.**
- **Is there anything we should do now to reduce the exposure risk to lead?**
- **Discuss possibly accelerating a corrosion control study for Flint. However, this should be done with a comprehensive look at all rule requirements and treatment needs. EPA/ORD expert are available to assist.**
- **How is Flint doing with meeting all the other regulatory requirements? Are they meeting LT2 requirements for crypto monitoring?**

Issue #2: Discuss optimal corrosion control requirements

- The federal regulations governing lead and copper in drinking water, which all States are required to adopt, require all large public water systems (those serving greater than 50,000 persons (Flint's population is 99,002 (2014)) to install and maintain optimal corrosion control. The federal citation (requirement) requiring optimal corrosion control treatment can be found at Title 40 Code of Federal Regulations (CFR), Subpart I, Section 141.80, paragraph (d), as follows:

    - "(d) Corrosion control treatment requirements.
    - (1) All water systems shall install and operate optimal corrosion control treatment as defined in 141.2.
    - (2) Any water system that complies with the applicable corrosion control treatment requirements specified by the State under 141.81 and 141.82 shall be deemed in compliance with the treatment requirement contained in paragraph (d)(1) of this section."

- Paragraph (1) above requires systems to have installed treatment unless they have low lead levels (defined in other parts of the rule), but based on the Flint's current 90th percentile lead level, they would not meet that criteria and must have optimal corrosion control in place. Title 40 CFR Section 141.2 defines optimal corrosion control treatment as follows:
    - "Optimal corrosion control treatment, for the purpose of subpart I of this part only, means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while insuring that the treatment does not cause the water system to violate any national primary drinking water regulations."

- HQ memorandum of January 10, 1992 titled, "Consecutive Systems Regulated under the National Primary Drinking Water Regulations for Lead and Copper" reinforces the position that "optimal corrosion control treatment is properly installed and maintained". Further, the LCR Short-term Revisions (2007) Preamble (starting on page 57788) states, "State notification and approval of long-term treatment changes is important because these changes could adversely impact optimal corrosion control. As EPA noted in the proposed rule, this approach allows the State to evaluate the change prior to implementation and, if needed, to design a monitoring program to ensure that optimal corrosion control is maintained after the change..... EPA will provide guidance to help systems identify source water changes (such as changing the mixture) that could impact optimal corrosion control."

- MDEQ's Policy also describes under 5.c. Change in Treatment or Addition of a New Source that "Field staff may require the water supply to conduct additional monitoring or take other actions to ensure that CCT (corrosion control treatment) remains optimized".

Discussion Items:

- **MDEQ made decision that Flint would be treated as a "new system" rather than an existing system changing their source of water. Discuss EPA (Region & HQ) interpretation of regulations that systems need to "maintain" corrosion control.**
- **Are there any other communities that may leave the Detroit system for other sources like Lake Huron that would be viewed as new systems or should be doing something about now to collect needed information to maintain corrosion control?**

Issue #3: Discuss Pre-flushing (as time allows)

- Lead compliance sampling procedures in the state of Michigan comply with Federal SDWA requirements which calls for a minimum of 6 hours during which there is no water used from the tap

the sample is taken from. While pre-flushing may fall within a strict legal interpretation of the regulations, we believe that it goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowner in the sample.

- Michigan is the only Region 5 State that requires pre-flushing.
- Attachment 1 provides a brief description of pre-flushing.

Pre-flushing

The issue of pre-flushing came up regarding compliance sampling protocol used in Washington DC and was addressed by Cynthia Dougherty/OGWDW(see below/attached docs) in a letter to a resident in DC. It was not addressed in the Grumbles memo as the pre-flushing was discovered after the Grumbles memo had been written. To date, it has not been addressed on a national basis but it is one of the issues being discussed as part of the LCR Long-term revisions.

"The purpose of the monitoring protocol is to determine if corrosion control is effective in reducing lead and copper leaching at times and locations where we would expect levels to be greatest under normal conitions. Therefore, we believe that homeowners collecting samples should use their water as they would normally, with the exception that the regulations require the water to stagnate for a minimum of six hours prior to collection of the sample."

"We do not understand why DC WASA believes it should be necessary to request flushing only in households participating in the sampling. While this may fall within a strict legal interpretation of the regulations, we believe that it goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowner in the sample. We will discuss this matter with their water quality manager to determine if there is a rationale that we should consider as we evaluate this issue. We also want to make sure that you are aware that we are considering additional actions we can take to further reduce lead and copper in drinking water and will be holding a stakeholder meeting on October 14-15 to initiate the effort."

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Monday, June 08, 2015 11:19 AM
To: Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ);Philip, Kris (DEQ);Cook, Pat (DEQ);Busch, Stephen (DEQ);Prysby, Mike (DEQ);DeBruyn, Dana (DEQ);Monosmith, Carrie (DEQ);Dettweiler, Dan (DEQ)
Cc: Poy, Thomas;Bair, Rita;Damato, Nicholas;Shoven, Heather;Murphy, Thomas;Porter, Andrea;Deltoral, Miguel;Kuefler, Janet;McElhinney, Cary;Noureldin, Mostafa
Subject: Agenda for MI Semi-Annual Call on Wed 6/10 at 10am EST; 9am CST

Importance: High

Good morning! Below is the Agenda I came up with for our semi-annual call this Wed morning. Please let me know if you would like to add additional items for us to discuss. Please note that I have invited Steve Busch, Mike Prysby and Pat Cook to discuss item no. 3 regarding Flint.

Jennifer

Agenda Topics for Michigan Semi-Annual Call on Wednesday June 10, 9am CST

Call-in no: **PPI**
Code: **PPI**

1. Changes in Lead Disinvestments and Commitments for FY 2016 ARDP—for discussion: Due to our extreme focus on lead in drinking water, this is the consensus here.
   a. Consumer notification of tap results at NTNCWSs:
   (Suggested wording) The NCWS program commits to full implementation of the lead consumer notification of tap results requirement, to begin in CY 2016. Region 5 will assist in a notification outreach effort in late FY 2015 to remaining 698 NTNCWSs that are not schools/daycares, to begin providing lead consumer notice in CY 2016. NCWS program commits to include information on providing lead consumer notice in the annual monitoring letter sent to all NTNCWSs for CY 2016.
   b. Collection of Lead samples at NTNCWSs during June – September 2016 timeframe
   (Suggested wording) NCWS program commits to including information in the applicable NTNCWS annual monitoring letters of the requirement to collect their annual/triennial lead sample between June and September only, during CY 2016. The MDEQ currently does not have the capability to track lead sampling compliance within this specific timeframe.
   c. Follow-up Actions for NTNCWSs that sample outside of June-September 2015 timeframe
   (From 5/5/15 call notes w/EPA) MDEQ commits to providing Region 5 with all CY 2015 lead (and copper?) sample data for all NTNCWSs by March 2016 so that EPA can analyze how many PWSs monitored outside the June through October timeframe. EPA commits to follow-up with MDEQ to discuss follow-up actions.
   d. Submittal of the lead and copper reporting form
   (Suggested wording) MDEQ commits to requiring CWSs and NTNCWSs to submit the lead and copper reporting form via the annual monitoring letters to each system, tracking CWSs and NTNCWSs submittal of the lead and copper reporting form, and commits to issuing violations for failure to submit the lead and copper reporting form. The reporting form provides the address of the sample site, designates sampling site selection criteria, and explanation(s) for any changes in sampling sites.

2. Enforcement Update with Heather

   NTNCWSs under Bottled Water agreements due to Arsenic MCL violations:

   Per discussions with Region 5 and the February 2014 EPA/OECA memo, MDEQ has closed the old Arsenic open-ended MCL violations; however, no further quarterly monitoring is being conducted at the (+27) systems that are still under [PPI] s, no more arsenic MCL violations will be reported for these systems and th [PPI] riority systems (ETT score of 11 or more) since only one arsenic MCL violation [PPI] though they have a longstanding issue with arsenic noncompliance. The Region would like to discuss the pros and cons of placing these PWSs with arsenic MCL violations on quarterly monitoring as required under 40 CFR Section 141.23(c)(7); and brainstorm possible solutions.

3. Status of Flint
   a. TTHM levels for May—Due to MDEQ district engineer June 10
   b. Lead in Flint

   Our discussions with MDEQ indicate that no phosphates/corrosion control has been added to the system since April 2014 when the source of drinking water changed to the Flint River. We understand that the City is just finishing up its second set of 6-month initial monitoring for lead; where the results will probably warrant a Corrosion Control Study to be conducted. Since Flint has lead service lines, we understand some citizen-requested lead sampling is exceeding the Action Level, and the source of drinking water will be changing again in 2016, so to start a Corrosion Control Study now doesn't make sense. The idea to ask Flint to simply add phosphate may be premature; there are many other issues and factors that must be taken into account which would require a comprehensive look at the water quality and the system before any treatment recommendations can/should be made. Miguel is recommending MDEQ and EPA? approach Flint about formally requesting EPA's Office of Research and Development in Cincinnati support on the lead in Flint drinking water issue, and request that Mike Schock, ORD, and possibly Darren Lytle, ORD, to participate in Flint's drinking water advisory committee so that a comprehensive evaluation on how to proceed can be discussed.

4. Update on WaterTrack to SDWIS-State: The migration of WaterTrack data to SDWIS-State was number 39 on the Dept of Technology Management and Budget's (DTMB) project list last year; this year it is number 30. It doesn't appear this project has a high priority. Does the State have any new information on the progress of this project?

5. Consequences of cutting the State drinking water program to a "minimal program"

   Jennifer had a discussion with Richard Benzie regarding the possibility of the Michigan State Legislature looking to have just a minimal drinking water program, meaning only a program with activities that are required by the Federal SDWA. Jennifer ultimately discussed this internally with Tom Poy. The minimal program suggested would cut out Operator Certification, Capacity Development, Plan Review, Cross Connection Control, Source Water Protection, among other programs that are State required. Operator Certification and Capacity Development, while not required by the Federal regulations, do have financial strings attached. And Plan review/construction permits are required by the SRF program for a loan. Any recent communication with the State Legislature that they might proceed and make this possibility a reality?

6. EPA's Resource Message at the LHD Workshop in April

   From the 2014 analysis of Shared Goals 2013 data, which is compliance data, for noncommunity systems, there are increasing trends of nitrate M/R violations for both NTNCWSs and TNCWSs. We discussed this on the last semi-annual call. Analysis of the 2015 Shared Goals 2014 data (April 2015) shows an improvement—that of decreasing numbers of bacti/nitrate M/R violations.

   However, in light of the upcoming implementation of RTCR in 2016, the question raised here in the Region is: Does the State have a plan with the LHDs as to what activities must be prioritized, and what will fall off the plate? Not all LHDs will need to disinvest based upon each LHD's resources, but some poorly funded LHDs may have to disinvest in some activities/drop activities that have no risk to public health.

Jennifer

From: Benzie, Richard (DEQ)
Sent: Saturday, May 02, 2015 10:35 AM
To: Shekter Smith, Liane (DEQ)
Subject: Fw: Flint Corrosion Control?

FYI

From: Cook, Pat (DEQ)
Sent: Friday, May 1, 2015 11:38 AM
To: Deltoral, Miguel
Cc: Porter, Andrea; Crooks, Jennifer; Poy, Thomas; Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Subject: RE: Flint Corrosion Control?

Hi Miguel - sorry, I should have been more specific in my previous email. The rules you stated below allow large systems to be considered having optimal corrosion control if they have data from two consecutive 6 month monitoring periods that meet specific criteria. DEQ-ODWMA has not made a formal decision as to whether or not the City of Flint meets the exemption criteria or will be required to do a corrosion control study since Flint has only completed one round of 6 month monitoring. The City of Flint's second round of monitoring will be completed by June 30, 2015, and we will make a formal decision at that time. If my memory is correct, this is consistent with the process followed in the early 1990's for large systems when the Pb/Cu rule was first implemented. The Department waits until large systems complete both rounds of full scale, 6 month monitoring before making a decision about optimal corrosion control. If it is determined that Flint has to install corrosion control treatment, the rule allows up to 2 years to complete a study and 2 additional years to install the treatment unless we set a shorter time frame.

As Flint will be switching raw water sources in a just over one year from now, raw water quality will be completely different than what they currently use. Requiring a study at the current time will be of little to no value in the long term control of these chronic contaminants.

Finally, the City of Flint's sampling protocols for lead and copper monitoring comply will all current state and federal requirements. Any required modifications will be implemented at the time when such future regulatory requirements take effect.

Patrick Cook, P.E.
Community Drinking Water Unit
Office of Drinking Water & Municipal Assistance
Michigan Department of Environmental Quality
Phone: (517) 284-6514
cookp@michigan.gov

From: Deltoral, Miguel [mailto:deltoral.miguel@epa.gov]
Sent: Saturday, April 25, 2015 10:11 AM
To: Cook, Pat (DEQ)
Cc: Porter, Andrea; Crooks, Jennifer; Poy, Thomas
Subject: Re: Flint Corrosion Control?

Hi Pat,

I'll be heading out to MI for RTCR tomorrow and won't see email until next Tuesday, but I wanted to follow up on this because Flint has essentially not been using any corrosion control treatment since April 30, 2014 and they have LSLs. Given the very high lead levels found at one home and the pre-flushing happening at Flint, I'm worried that the whole town may have much higher lead levels than the compliance results indicated, since they are using pre-flushing ahead of their compliance sampling.

If the source water lead is non-detect (zero), then according to 141.89(a)(3) they should use zero for that source water value:

"All lead and copper levels measured between the PQL and MDL must be either reported as measured or they can be reported as one-half the PQL specified for lead and copper in paragraph (a)(1)(ii) of this section. All levels below the lead and copper MDLs must be reported as zero."

As far as the treatment determination, there are only two scenarios for a large system to be deemed to have optimized corrosion control without treatment and Flint does not appear to meet either:

The first is at 141.81(b)(3)

Any water system is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with § 141.86 and source water monitoring conducted in accordance with § 141.88 that demonstrates for two consecutive 6-month monitoring periods that the difference between the 90th percentile tap water lead level computed under §141.80(c)(3), and the highest source water lead concentration is less than the Practical Quantitation Level for lead specified in § 141.89(a)(1)(ii).

If Flint's highest source water lead was zero, and their 90th percentile was 0.006, then Flint does not meet this criteria, because the difference must be LESS THAN the PQL (i.e., 0.004 or less). 0.006 - 0 = 0.006.

The second is at 141.81(b)(3)(i):
Those systems whose highest source water lead level is below the Method Detection Limit may also be deemed to have optimized corrosion control under this paragraph if the 90th percentile tap water lead level is less than or equal to the Practical Quantitation Level for lead for two consecutive 6-month monitoring periods.

Although Flint's source water lead was non-detect (zero), the 90th percentile lead level is 0.006 which is above the PQL of 0.005, so Flint would not meet this criteria either.

Am I missing something?

Miguel A. Del Toral
Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Cook, Pat (DEQ) <COOKP@michigan.gov>
Sent: Friday, April 24, 2015 12:45 PM
To: Deltoral, Miguel
Subject: RE: Flint Corrosion Control?

Total Lead collected from the plant tap on 5/22/14 was zero.

pat

From: Deltoral, Miguel [mailto:deltoral.miguel@epa.gov]
Sent: Friday, April 24, 2015 11:59 AM
To: Cook, Pat (DEQ)
Cc: Poy, Thomas; Porter, Andrea
Subject: Re: Flint Corrosion Control?

What was the source water lead level?

Miguel A. Del Toral
Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Cook, Pat (DEQ) <COOKP@michigan.gov>
Sent: Friday, April 24, 2015 10:43 AM
To: Deltoral, Miguel
Cc: Poy, Thomas; Porter, Andrea
Subject: RE: Flint Corrosion Control?

Hi Miguel - Flint is currently not practicing corrosion control treatment at the WTP. When they started treating water at their WTP last spring, we placed them on full chart (100 sites) Pb/Cu monitoring for two consecutive 6 month periods. WQ monitoring is also being conducted. The first round of samples after switch-over from DWSD (July 1, 2014 – Dec 31, 2014) had 90th percentiles of 6 ppb for Lead and 110 ppb for Copper. The second round of samples (Jan 1, 2015 – June 30, 2015) is underway with approximately 20 of the 100 sample site results in. The highest lead result out of the 20 received thus far is 13 ppb.

Based on the matrix of recommended corrosion control study components for Large PWS's for both Lead and Copper, there are no additional requirements for the City of Flint based on the levels of lead and copper in the current source water and the results of the lead and copper distribution monitoring. The only provision of the Lead & Copper Rule which classifies the existing treatment of large PWSs as optimized for corrosion control is when the difference between the 90% Pb-TAP and Pb-POE is less than the lead practical quantitative level (PQL) for each six-month period of the initial monitoring program. By definition, the PQL for lead is 0.005 mg/L; and the lead value for the source water used in this determination is the highest source water lead concentration. If this condition is met, then no study or testing is required. We believe this condition has been met for Flint. However, we will re-evaluate this after the 2nd round of 6 month sampling is completed.

If you have any further questions, please contact the Lansing District Supervisor, Steve Busch at (517) 643-2314 or at buschs@michigan.gov.

Have a good (and hopefully warm) weekend!

Patrick Cook, P.E.
Community Drinking Water Unit
Office of Drinking Water & Municipal Assistance
Michigan Department of Environmental Quality
Phone: (517) 284-6514
cookp@michigan.gov

From: Deltoral, Miguel [mailto:deltoral.miguel@epa.gov]
Sent: Thursday, April 23, 2015 12:33 PM
To: Cook, Pat (DEQ)
Cc: Poy, Thomas; Porter, Andrea
Subject: Flint Corrosion Control?

Hi Pat,

What's Flint doing now (post Detroit) for corrosion control treatment?

Miguel A. Del Toral
Regulations Manager
Ground Water and Drinking Water Branch
77 West Jackson Blvd (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, October 14, 2015 5:14 PM
To: Krisztian, George (DEQ)
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Busch, Stephen (DEQ);Prysby, Mike (DEQ);Rosenthal, Adam (DEQ)
Subject: RE: Preliminary and Deliberative not subject to FOIA: Information Request
Attachments: Flint

An additional related e-mail for consideration.

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, October 14, 2015 2:27 PM
To: Busch, Stephen (DEQ); Krisztian, George (DEQ); Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: RE: Preliminary and Deliberative not subject to FOIA: Information Request

Attached in the agenda received from EPA on 7/21/15 – it is related to the e-mail Steve included without a date.

The agenda for the 6/10 call is also attached.

I think seeing the agendas is helpful to understand EPA's perspective and inquiries at the time.

The third e-mail I've included is between Pat Cook and Miguel Deltoral, EPA. This e-mail includes Pat's explanation regarding our approach to managing the LCR (lead copper rule) in Flint.

From: Busch, Stephen (DEQ)
Sent: Wednesday, October 14, 2015 11:36 AM
To: Krisztian, George (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: RE: Preliminary and Deliberative not subject to FOIA: Information Request

George,

Attached are emails with notes related to conference calls with EPA region V that I have and provide further discussion regarding Flint. Liane could still have additional material.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Krisztian, George (DEQ)
Sent: Wednesday, October 14, 2015 10:57 AM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: Preliminary and Deliberative not subject to FOIA: Information Request
Importance: High

Liane,

As a follow-up to our conversation yesterday, I need a copy of the write up that EPA provided to your group for the conference call that was held after Steve's e-mail of February 27, 2015.

Thank you!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph **PPI**

From: Hyde, Tinka <hyde.tinka@epa.gov>
Sent: Tuesday, June 30, 2015 4:41 PM
To: Shekter Smith, Liane (DEQ)
Cc: Monosmith, Carrie (DEQ);Henry, Timothy;Poy, Thomas;Bair, Rita;Damato, Nicholas
Subject: Flint

Hi Liane – I'm following up on the voicemail I left for you earlier today. I'm also copying Carrie Monosmith as I did get a chance to chat with her. In advance of our call scheduled for 7/21/15, I wanted to provide you with an update related to water quality challenges in Flint. I understand that some discussion occurred on June 10th with Tom Poy and staff during the semi-annual call regarding MDEQ's implementation of the LCR rule and the status of Flint. The Region is concerned about the lead situation in Flint and suggested that additional ORD assistance could be provided to Flint's Advisory Committee. We understand that the city is finishing up its second set of 6-month initial monitoring and I have scheduled a call with you on July 21st so we can discuss the Flint situation in more detail.

As you know, my staff have been out to Flint to collect samples and data which we felt could uniquely inform the NDWAC process and ultimately better inform the LCR rulemaking. Tom Poy asked Miguel Del Toral to prepare a report summarizing the visits and findings. Last week Miguel completed a draft interim report and provided it to management. Once Miguel addresses our comments, we will provide you with a copy of that report. In most cases, an internal EPA memo would not be distributed outside the agency, but given his interaction with the homeowner for one of the sampling locations, Miguel has shared a copy of the draft interim report as a courtesy with this Flint resident. Based on Miguel's initial analysis, elevated lead levels were found at this residence. In addition, it appears that the source of the lead may be from outside the home (Note: plumbing in the home is largely plastic).

Please know that Region 5 management is still being briefed on the lead issues in Flint and we look forward to the opportunity to discuss the situation with you in more detail so we can better characterize what MDEQ is already doing in Flint and how public health protection can best be provided to the citizens of Flint. If you would like to discuss this in advance of our call, please feel free to contact myself, or Tim Henry (312-886-6107). Thanks

Tinka G. Hyde
Water Division Director
USEPA W-15J
77 W. Jackson Blvd
Chicago, IL 60604

Office: 312-886-9296
Cell: PPI

From: Busch, Stephen (DEQ)
Sent: Wednesday, October 14, 2015 11:36 AM
To: Krisztian, George (DEQ);Shekter Smith, Liane (DEQ);Rosenthal, Adam (DEQ);Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ)
Subject: RE: Preliminary and Deliberative not subject to FOIA: Information Request
Attachments: Final Notes from Michigan semi-annual call on 6/10; Final Notes from call Tuesday 8/31/15 with MI DEQ RE: Flint; FW: FOR REVIEW: MDEQ - Flint Call Notes

George,

Attached are emails with notes related to conference calls with EPA region V that I have and provide further discussion regarding Flint. Liane could still have additional material.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Krisztian, George (DEQ)
Sent: Wednesday, October 14, 2015 10:57 AM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: Preliminary and Deliberative not subject to FOIA: Information Request
Importance: High

Liane,

As a follow-up to our conversation yesterday, I need a copy of the write up that EPA provided to your group for the conference call that was held after Steve's e-mail of February 27, 2015.

Thank you!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 204-0381

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Tuesday, July 28, 2015 9:47 AM
To: Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ);Philip, Kris (DEQ);Monosmith, Carrie (DEQ);DeBruyn, Dana (DEQ);Dettweiler, Dan (DEQ);Busch, Stephen (DEQ);Prysby, Mike (DEQ);Cook, Pat (DEQ);Holdwick, Kevin (DEQ)
Cc: Poy, Thomas;Bair, Rita;Damato, Nicholas;Shoven, Heather;Kuefler, Janet;Murphy, Thomas;Porter, Andrea;Deltoral, Miguel
Subject: Final Notes from Michigan semi-annual call on 6/10

I was supposed to finalize these in mid-July, but I didn't receive any changes from anyone, so these notes are final now. Thank you all again for participating.
Jennifer

From: Crooks, Jennifer
Sent: Wednesday, July 01, 2015 5:31 PM
To: Shekter Smith, Liane (DNRE); Richard Benzie; kris philip; Monosmith, Carrie (DNRE); DeBruyn, Dana (DEQ); Dettweiler, Dan (DEQ); Busch, Stephen (DEQ); 'Prysby, Mike (DEQ)'; 'cookp@michigan.gov'; Holdwick, Kevin (DEQ)
Cc: Thomas Poy; Bair, Rita; Damato, Nicholas; Shoven, Heather; Kuefler, Janet; Murphy, Thomas; Porter, Andrea; Deltoral, Miguel
Subject: Draft Notes from Michigan semi-annual call on 6/10

All—Below are my draft notes from our call last week, June 10, 2015. Thank you all for participating. I apologize for the delay in getting these out in draft to you all for review—I was hoping to get a couple of items ironed out that were fuzzy during our discussions, but hasn't happened yet. Several ACTION items below. So, please review to make sure I documented our discussion/agreements correctly, and feel free to edit as needed. I you could get back to me by July 13, that would be great. Thank you!

Jennifer

Attendees:
MDEQ: Liane Shekter-Smith, Richard Benzie, Carrie Monosmith, Kris Philip, Dan Dettweiler, Marjorie Rodriguez (Student), Kevin Holdwick, Mike Prysby, Dana DeBruyn, Steve Busch
EPA Region 5: Tom Poy, Rita Bair, Nick Damato, Janet Kuefler, Michele Palmer, Tom Murphy, Heather Shoven, Cary McElhinney, Andrea Porter, Miguel Deltoral, Mostafa Noureldin

Summary:

1.Changes in Lead Disinvestments and Commitments for FY 2016 ARDP—for discussion: Due to our extreme focus on lead in drinking water, this is the consensus here.

a. Consumer notification of tap results at NTNCWSs:

(Suggested wording) The NCWS program commits to full implementation of the lead consumer notification of tap results requirement, to begin in CY 2016. Region 5 will assist in a notification outreach effort in late FY 2015 to remaining 698 NTNCWSs that are not schools/daycares, to begin providing lead consumer notice in CY 2016. NCWS program commits

to include information on providing lead consumer notice in the annual monitoring letter sent to all NTNCWSs for CY 2016.

STATE: The State found this change in the wording acceptable.

b. Collection of Lead samples at NTNCWSs during June – September 2016 timeframe

(Suggested wording) NCWS program commits to including information in the applicable NTNCWS annual monitoring letters of the requirement to collect their annual/triennial lead sample between June and September only, during CY 2016. The MDEQ NCWS program currently does not have the capability to easily track lead sampling compliance within this specific timeframe.

STATE: The State found this change in the wording acceptable.

c. Follow-up Actions for NTNCWSs that sample outside of June-September 2015 timeframe

(From 5/5/15 call notes w/EPA) MDEQ commits to providing Region 5 with all CY 2015 lead (and copper?) sample data for all NTNCWSs by March 2016 so that EPA can analyze how many PWSs monitored outside the June through October timeframe. EPA commits to follow-up with MDEQ to discuss follow-up actions.

STATE: The State agreed to providing EPA R5 the raw lead and copper data for all CY 2015 for all NTNCWSs. The WaterTrack database does have data, but it can't generate violations. MDEQ doesn't commit to enforcing against 2016 violators in FY 2016. The State said, it is planning on disinvesting in enforcing against these violators due to limited capability of WaterTrack; however, if the State's noncommunity data management capabilities improve during FY 2016, implementation of this disinvestment may become a reality. The State has not designated an alternate timeframe, or done system specific documentation as to why the system qualifies for a different timeframe.

d. Submittal of the lead and copper reporting form

(Suggested wording) MDEQ commits to requiring CWSs and NTNCWSs to submit the lead and copper reporting form via the annual monitoring letters to each system, tracking CWSs and NTNCWSs submittal of the lead and copper reporting form, and commits to issuing violations for failure to submit the lead and copper reporting form. The reporting form provides the address of the sample site, designates sampling site selection criteria, and explanation(s) for any changes in sampling sites.

STATE: Dan Dettweiler stated that the NCWS program was not in a position to do this for the NTNCWSs at this time. Tom Murphy asked how does WaterTrack handle/track high lead results? Tom M said there is a truncation issue on the sample location name field. Dan acknowledged that this problem has been identified, and the Department of Technology Management and Budget (DTMB) has been trying to fix this problem, but it is a challenging problem. Dan stated that sample sites for NTNCWSs are actually identified by LHDs during the sanitary survey and are documented in the sanitary survey. The LHDs check the pdf of the laboratory results that clearly states where the sample was taken, and calculates the 90th percentile. However, Dan stated that the requirement to send in the lead and copper reporting form is not currently in the LHD annual monitoring letter sent to each system. The NTNCWSs do not couple this form to the Lead Consumer Notice, as does the CWSs. Kris Philip pointed out that the LHDs select the sample sites, thus when they are calculating the 90th percentile, they are actually double checking the sites with the results.

From our discussion, the Region concluded that at this time, the LHDs are actively reviewing the lead and copper results and the sample locations when they calculate the 90th percentiles to ensure proper LCR monitoring is conducted by ALL NTNCWSs at the proper sample sites. After our call, I asked for verification of this statement, and Dan Dettweiler responded, "Just as with an exceeding value of an MCL, WaterTrack alerts the LHD when at least one sample for a water

system exceeds the AL. A 90th percentile calculation is made only when an exceeding result alerts the LHD. For cases where there are no exceeding results, private lab samples are reviewed at the time LHDs hand-enter them into WaterTrack. State lab samples, which flow electronically via nightly downloads from the state lab database, are reviewed when pdfs of the analysis reports are, routinely, emailed by the state lab to LHDs. Beyond that, MDEQ's annual evaluation of the LHDs provides another opportunity for us to oversee the proper assigning and use of designated sampling locations."

ACTION: The Region will discuss Dan's response internally, and get back to the State with any issues/concerns.

Kris Philip said that the CWS program is requiring that the systems submit the form, but they are not enforcing whether or not the system submits the form. Often, the CWS will submit the Lead Consumer Notice and the Lead and Copper reporting form together. Kris said if 90%+ are already submitting the forms, then the State will agree to follow-up and enforce this requirement. But, if less than that, will probably be too much of a burden. Kris said they may change the way DEQ is tracking in SDWIS during FY 2016. But, the Region said SDWIS-Prime probably won't be available until 2017 at the earliest.

ACTION: Kris Philip will research with the District Offices to determine the current submittal rate of the lead and copper reporting form from CWSs; and report back to the Region.

2. Enforcement Update with Heather

<u>NTNCWSs under Bottled Water agreements due to Arsenic MCL violations</u>:
Per discussions with Region 5 and the February 2014 EPA/OECA memo, MDEQ has closed the old Arsenic open-ended MCL violations; however, no further quarterly monitoring is being conducted at the (±27) systems that are still under bottled water agreements. Thus, no more arsenic MCL violations will be reported for these systems and these systems will not become priority systems (ETT score of 11 or more) since only one arsenic MCL violation will be reported (5 points) even though they have a longstanding issue with arsenic noncompliance. The Region would like to discuss the pros and cons of placing these PWSs with arsenic MCL violations on quarterly monitoring as required under 40 CFR Section 141.23(c)(7); and brainstorm possible solutions.

Heather provided an update on how the State is doing in returning ETT systems to compliance; the State is doing very well in achieving its commitment for FY 2015. Heather said the Region is glad to see the State and LHD prioritization of implementation of the drinking water program and NTNCWS schools and daycares.
Referring to the NTNCWSs under BW agreements that are in violation of the Arsenic MCL, Heather said that since there are no more open-ended MCL violations in SDWIS, that no MCL violations can be reported to SDWIS unless there is monitoring to show the system is in non-compliance. Even though the LHD has indicated that these systems are drinking bottled water for public health protection, the use of bottled water cannot be a permanent solution to the fact that the system's drinking water at the tap continues to exceed the MCL for arsenic. Dan said there are 22 systems, where 8 are schools, that should be conducting quarterly monitoring. Dana said that letters have been sent (OR drafted?) to these 22 systems to require quarterly sampling for arsenic; these 22 systems are in 10 different counties so the message from the State is consistent. A secondary effect of this new requirement for the systems, may be that they transition to another water source or install treatment sooner.

The State voiced a concern that multiple quarterly violations could potentially affect the State's relationship with the LHDs financially. Genesee and Oakland Counties have quite a number of noncommunity water systems. Multiple quarterly violations could affect the Dept of Community Health's determination as to whether the LHDs are meeting their minimum program requirements; thus receive full funding for their work with the noncommunity systems for the drinking water program. The LHDs cannot have more than 20% of their systems with violations. The Region wonders how much funding would be cut from a LHD contract if it exceeds the 20% noncompliance level set in the contract?

3. Status of Flint

a. TTHM levels for May—Due to MDEQ district engineer June 10-RECEIVED; see link to results

https://www.cityofflint.com/2015/06/01/may-water-testing-results-show-all-locations-are-within-acceptable-limits-for-tthm/
All samples below the TTHM MCL; one site still has an LRAA above the MCL but decreased from 105 ppb in Feb to 93.5 ppb in May.

Mike Prysby said he is getting ready to issue the construction permit to the City of Flint to install a GAC filter in July, that will remove more TOC to further reduce the potential of developing TTHMs. Mike said he has already issued a construction permit for a transmission line within the City that will help reduce water age.

b. Lead in Flint

Our discussions with MDEQ indicate that no phosphates/corrosion control has been added to the system since April 2014 when the source of drinking water changed to the Flint River. We understand that the City is just finishing up its second set of 6-month initial monitoring for lead; where the results will probably warrant a Corrosion Control Study to be conducted. Since Flint has lead service lines, we understand some citizen-requested lead sampling is exceeding the Action Level, and the source of drinking water will be changing again in 2016, so to start a Corrosion Control Study now doesn't make sense. The idea to ask Flint to simply add phosphate may be premature; there are many other issues and factors that must be taken into account which would require a comprehensive look at the water quality and the system before any treatment recommendations can/should be made. Miguel is recommending MDEQ and EPA? approach Flint about formally requesting EPA's Office of Research and Development in Cincinnati support on the lead in Flint drinking water issue, and request that Mike Schock, ORD, and possibly Darren Lytle, ORD, to participate in Flint's drinking water advisory committee so that a comprehensive evaluation on how to proceed can be discussed.

Miguel provided a brief summary of the high lead results found at the residence of Ms. Leeanne Walters in Flint. Miguel will follow up with a written summary of the work conducted, sample results, and conclusions.
Miguel believes that lead levels in Flint are being affected by the lack of Corrosion Control being conducted by the City, since the LCR requires 2 6-month initial monitoring for a new source. Steve Busch stated that in the Lead sampling pool, almost all of the lead sample sites are lead service lines, and the State is not seeing large increases in lead levels at the tap. Miguel suggested that EPA experts in Lead, Mike Schock; and in distribution systems, Darren Lytle, be added to the Flint drinking water advisory committee to assist the City/State in determining the best way to proceed to minimize lead in the City's drinking water during the interim use of the Flint River, and subsequent use of Lake Huron water.

Miguel said he will send Mike Schock and Darren Lytle's contact information to Steve and Mike. Steve pointed out that the City is following the LCR requirements, and completing the requirements in a timely manner. Miguel's point is that since the LCR was promulgated 20+ years ago, that research and different situations, like Washington D.C., have educated scientists, experts, and regulators that the existing requirements in the LCR may not be as protective as previously thought. Thus, he can only make recommendations as to how to revise sampling protocols. And Miguel acknowledges that it may be another year before these regulation changes are promulgated in the Long-Term Lead and Copper Rule. In December 2015, the NDWAC recommendation is expected.

The Region asked the State if the Flint River will be a permanent supplemental source of drinking water, once the City of Flint connects with the Karegdodi pipeline from Lake Huron. Mike Prysby said that the City is currently pumping 22MGD, but the City has 40-50 MG of storage. The City is currently working on reducing its unaccounted for water losses, and these water losses are dropping. The State, through the Governor's office, provided disadvantaged system funding, $2M which includes $900K for lead detection, and pipe inspection.

4. Update on WaterTrack to SDWIS-State: The migration of WaterTrack data to SDWIS-State was number 39 on the Dept of Technology Management and Budget's (DTMB) project list last year; this year it is

number 30. It doesn't appear this project has a high priority. Does the State have any new information on the progress of this project?

Dan said that the migration of WaterTrack data to SDWIS-State has moved to a priority of 26 with DTMB so far this year. But Dan said they are going to take this project out of the que, since Ronda Page has returned to the drinking water program from DTMB. Ronda said she re-estimated DTMB's involvement in this project to be far less than originally thought, so there is no need for any program developers or the tech team. This project will only need the Data Team and the web designers only. Ronda said they can set-up on a new server and migrate the data from WaterTrack to SDWIS-State themselves; in-house. Kris Philip remembers migrating the CWS data to SDWIS-State, so she can be a resource for this project. The parts that are needed to be completed by DTMB could be contracted out. Cary McElhinney said that there is a process of withholding PWSS grant funds and re-directing the funds to a HQ contract with SAIC. Richard Benzie said the process worked well last year when MI used PWSS funds to contract with a HQ contractor to conduct NEEDS survey training.

ACTION: Jen will follow up with State and Tribal Programs Branch about the process and timing of holding back funds from the PWSS grant for the purpose of contracting with SAIC.

5. <u>Consequences of cutting the State drinking water program to a "minimal program"</u>

Jennifer had a discussion with Richard Benzie regarding the possibility of the Michigan State Legislature looking to have just a minimal drinking water program, meaning only a program with activities that are required by the Federal SDWA. Jennifer ultimately discussed this internally with Tom Poy. The minimal program suggested would cut out Operator Certification, Capacity Development, Plan Review, Cross Connection Control, Source Water Protection, among other programs that are State required. Operator Certification and Capacity Development, while not required by the Federal regulations, do have financial strings attached. And Plan review/construction permits are required by the SRF program for a loan. Any recent communication with the State Legislature that they might proceed and make this possibility a reality?

Richard and Liane said there is no current threat from the State Legislature to cut the State-funded PWSS program activities. But there is a State-wide impetus to delete old programs and regulations, so this could lead to questioning the purpose of State-funded PWSS program activities. Richard is just being proactive in preparing a justification. Richard remembers a discussion many years ago about what constitutes a "comprehensive drinking water program". Tom Poy and Jennifer commented in a previous communication with Richard that the EPA PWSS primacy program and the State-funded activities in the drinking water program were meant to complement each other. To support this statement, Jennifer sent Richard some PWSS Priority guidance from the 90's, some preamble language from the 1976 SDWA found by our attorney, and language from Section 142 of the SDWA regulations from 1976 that might assist him in his justification.

6. <u>EPA's Resource Message at the LHD Workshop in April</u>

From the 2014 analysis of Shared Goals 2013 data, which is compliance data, for noncommunity systems, there are increasing trends of nitrate M/R violations for both NTNCWSs and TNCWSs. We discussed this on the last semi-annual call. Analysis of the 2015 Shared Goals 2014 data (April 2015) shows an improvement—that of decreasing numbers of bacti/nitrate M/R violations.

However, in light of the upcoming implementation of RTCR in 2016, the question raised here in the Region is:
Does the State have a plan with the LHDs as to what activities must be prioritized, and what will fall off the plate? Not all LHDs will need to disinvest based upon each LHD's resources, but some poorly funded LHDs may have to disinvest in some activities/drop activities that have no risk to public health.

Carrie Monosmith said that she met with the RTCR workgroup, comprised of LHD Directors/sanitarians, last fall to identify activities that the state can disinvest in during the next several years as the LHDs begin implementation of RTCR. They could not identify any activity that could be dropped. The main thing that will help the LHDs save time is to get the electronic DWR (eDWR) going, or the CMD portal, which will drastically reduce the LHDs time in inputting laboratory data into WaterTrack/SDWIS-State. From there, they can develop electronic data forms (CROMEER compliant) that the systems can submit.

Thank you!

Jennifer

shekterl@michigan.gov; 'Richard Benzie' <benzier@michigan.gov>; 'kris philip' <philipk@michigan.gov>; 'Monosmith, Carrie (DNRE)' <MONOSMITHC@michigan.gov>; 'DeBruyn, Dana (DEQ)' <DebruynD@michigan.gov>; Dettweiler, Dan (DEQ) <DETTWEILERD@michigan.gov>; Poy, Thomas <poy.thomas@epa.gov>; Kuefler, Janet <kuefler.janet@epa.gov>; Damato, Nicholas <damato.nicholas@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Murphy, Thomas <murphy.thomas@epa.gov>; Bair, Rita <bair.rita@epa.gov>; McElhinney, Cary <mcelhinney.cary@epa.gov>; Pniak, Edward <pniak.edward@epa.gov>; 'cookp@michigan.gov'; 'Prysby, Mike (DEQ)' <PRYSBYM@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Thursday, September 10, 2015 5:58 PM
To: Shekter Smith, Liane (DEQ)
Cc: Benzie, Richard (DEQ);Busch, Stephen (DEQ);Prysby, Mike (DEQ);Poy, Thomas;Porter, Andrea;Devereaux, Tracy Jo (DEQ);Kuefler, Janet;Shoven, Heather;Deltoral, Miguel
Subject: Final Notes from call Tuesday 8/31/15 with MI DEQ RE: Flint

Thank you, Liane, for your edits—I incorporated all of your edits, and further clarified who said what.
Jennifer

Date: August 31, 2015
Present: Liane Shekter Smith, Richard Benzie, Steve Busch, (2 other MDEQ staff?), Tom Poy, Andrea Porter, Janet Kuefler, Jennifer Crooks

STRATEGIC NEXT STEPS FOR FLINT TO ADDRESS LEAD CORROSION CONCERNS

Tom Poy discussed Marc Edwards' website, "Flint, MI Water Study Updates" (https://flintwaterstudyupdates.wordpress.com/). The discussion focused on the lead sampling and analytical results Marc Edwards' team posted to their website. Tom emphasized that EPA is not involved with Marc Edwards' work in Flint. Tom mentioned that the Edwards team's samples may not have been analyzed by a certified lab (which is only required for compliance samples) nor taken from sites that qualify as Tier 1 for LCR compliance sampling, but the results give further evidence that lead levels in Flint are trending upward. (The conclusion that there is an increasing trend of lead concentrations at consumer taps builds upon earlier compliance sampling taken by Flint in 2014 and 2015 that showed the 90th percentile of the 1st 6-month sampling period at 6ppb, then the 90th percentile of the 2nd 6-month sampling period at 11ppb.) Everyone at the meeting agreed that Flint is in compliance with the Safe Drinking water Act action level for lead. However, because the city's population exceeds 50,000 persons, MDEQ stated that Flint needs to additionally optimize their treatment process to reduce lead levels further, if possible.

The "Flint, MI Water Study Updates" website is putting added pressure on MDEQ and EPA to ensure that Flint addresses their lack of optimized corrosion control treatment in an expedited manner in order to protect the residents from exposure to high lead levels. Richard noted that there are numerous systems across the country that have installed corrosion control treatment, have optimized their corrosion control, but did not necessarily reduce their lead levels. We all acknowledged that this is true. MDEQ acknowledged that implementing installation of corrosion control treatment in Flint is prudent to protect public health since there are approximately 15,000 lead service lines within the city. EPA acknowledged that to delay installation of corrosion control treatment in Flint would likely cause even higher levels of lead over time as Flint's many lead service lines are continuously in contact with corrosive water.

Region 5 and MDEQ brainstormed on strategic next steps for Flint to address lead corrosion concerns. These steps included:

1. **Public Education for Flint Residents.** Liane has contacted the Department of Community Health to discuss developing a consumer lead education piece outlining the consumer's options to lower the lead in their drinking water. The Region was glad to hear of a plan to initiate Lead Public Education since this will provide the public immediate actions they can take. The educational material could include steps consumers can take to reduce their exposure to lead in drinking water (flushing their lines after long stagnation periods, using filters certified to remove lead, etc.) as well as longer term fixes to remove lead sources (for example, financing the cost to

remove any part of a lead service line on the owner's property at the same time as Flint is replacing its portion of the lead service line).

2. **Gathering Information on Flint's Future Treatment Plans.** Steve Busch said Flint and their engineering consultants were meeting this week (Sept 1) to discuss conceptually the necessary optimized corrosion control treatment at Flint. Tom Poy shared EPA lead experts' (Mike Schock and Darren Lytle of EPA's Office of Research and Development in Cincinnati) caution against simply adding orthophosphate without first studying the water quality and existing distribution system conditions to ensure that any installed treatment has a good chance of working. EPA lead experts have research and field experience showing the complexity of optimizing corrosion control treatment when water quality is significantly changed, as is the case for Flint.
3. **Offering Flint Free Help from EPA Experts.** Steve Busch has already provided the names of EPA lead experts (Mike Schock and Darren Lytle) to Flint, as has Susan Hedman, R5 Administrator. MDEQ and Region 5 agree that, to successfully control lead corrosion in the distribution system, Flint needs to review this situation holistically, while also addressing the lead issue in an expedited manner.
4. **Laying Groundwork for MDEQ/EPA Collaboration with Flint.** If Flint accepts the offer of technical assistance for optimizing corrosion control, Tom Poy suggested that MDEQ and EPA lead experts (Mike Schock and Darren Lytle) form a partnership to provide such help. EPA experts are able to provide pipe scale analyses, as well as other laboratory support. Although Flint (using their consultant) bears the ultimate responsibility for designing and installing corrosion control, MDEQ and EPA experts are willing and able to provide advice throughout the process.

END

Jennifer

Jennifer Kurtz Crooks
Michigan Program Manager
Ground Water and Drinking Water Branch
U.S. EPA Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604
312.886.0244
crooks.jennifer@epa.gov
312.582.5853 (fax)

From: Shekter Smith, Liane (DEQ)
Sent: Monday, August 03, 2015 3:34 PM
To: Cook, Pat (DEQ);Busch, Stephen (DEQ)
Subject: FW: FOR REVIEW: MDEQ - Flint Call Notes
Attachments: MDEQ Call on July 21_call notes v4.docx

Just received the attached. Haven't reviewed it yet.

From: Hyde, Tinka [mailto:hyde.tinka@epa.gov]
Sent: Monday, August 03, 2015 3:31 PM
To: Shekter Smith, Liane (DEQ)
Cc: Poy, Thomas; Bair, Rita
Subject: FOR REVIEW: MDEQ - Flint Call Notes

Hi Liane – Attached are our notes from our call on 7/21 regarding Flint Drinking Water System. Please take a look and let me know if you have any questions or comments. Thanks

Notes on Call with MDEQ on July 21, 2015

MDEQ Implementation of LCR Rule and Flint Issues

Issue #1: Is there a public health concern regarding lead in Flint or other regulatory requirements?

- The 90th percentile results of the 2nd round of monitoring was 11 ppb.
- The population has dropped to under 100,000 and therefore the 1st round of 6-month monitoring was done for 100 samples, but the 2nd round only needed 60 samples.
- Customer-requested samples were included, but MDEQ did not have specifics on how many there were.
- Tinka asked about the timeline for Flint to switch over to the Lake Huron water source. MDEQ said the pipeline is under construction and scheduled to be complete by July 2016. MDEQ expects some delays and thinks a more realistic timeframe is October 2016.
- MDEQ explained that Flint would have 18 months to complete the corrosion control study and the complicating factor of switching over to Lake Huron. Should the corrosion control study be based on the Lake Huron source? MDEQ also explained that once Flint is using Lake Huron water that they would then need to complete 2 more rounds of 6-month monitoring to assess whether any adjustments to the corrosion control treatment was needed.
- MDEQ will be sending a letter to Flint telling them they need to complete a corrosion control study – based on results they are not optimized. Given the timing of completing a corrosion control study and the anticipated switch to Lake Huron water, MDEQ will have discussions with Flint and request that they start corrosion control treatment as soon as possible.
- MDEQ asked for Region 5's opinion on whether the regulations allow for the study requirement for Flint to be waived if MDEQ has Flint start pH adjustments and adding phosphates. Region 5 will look into this and get back to MDEQ with an answer. All acknowledged that if Flint initiated corrosion control treatment and continued to evaluate the system to ensure optimization that these efforts would essentially equate to a corrosion control study.
- The Region raised its concern about looking at treatment more comprehensively to ensure problems with DBPs didn't occur. MDEQ stated that Flint is on the brink of DBP compliance and that bacteriological issues haven't occurred since last year. Any adjustments for corrosion control treatment would need to make sure the other issues weren't exacerbated.
- Region 5 again offered the assistance of ORD staff, Darren Lytle and Mike Schock which MDEQ said they had shared with Flint already.

Issue #2: Discuss optimal corrosion control requirements

Discussion Items:

- MDEQ explained that they did not treat the switch to Flint River water as a "new system", but as a new source. It is their understanding that 2 rounds of 6-month monitoring is still needed to characterize the water quality. They don't know what is optimized until those 2 rounds of 6-month monitoring are completed.
- Region 5 noted that under 141.81(b)(3)(iii) that any system that has been deemed optimized must notify the State of any long-term change in treatment or the addition of a new source. The State must review and approve the change and may require any such system to conduct additional monitoring or other action to ensure that the system maintains minimal levels of corrosion in the distribution system. The

DRAFT

State's requirement for 2 additional rounds of 6-month monitoring would fall under the "additional monitoring" prescribed by the State and not the initial 2 rounds of 6-month monitoring for new systems.

- Region 5 explained that they have talked to HQ about the interpretation of regulations and believes that systems that have been deemed optimized need to "maintain" corrosion control. The Region agreed to provide supporting regulatory citations for the language about maintaining corrosion control. Ed Moriarty in OGWDW is also consulting OGC on this topic and the OGC opinion will also be shared.
- MDEQ mentioned that there are other communities that may leave the Detroit system or connect to the new Lake Huron pipeline, but many of those either don't need to treat for corrosion control or will be building new treatment plants. Requirements for maintaining corrosion control for additional communities connecting to the Lake Huron pipeline will be discussed further after receipt of the HQ/OGC opinion.

Issue #3: Discuss Pre-flushing (as time allows)

- Lead compliance sampling procedures in the state of Michigan comply with Federal SDWA requirements which calls for a minimum of 6 hours during which there is no water used from the tap the sample is taken from.
- MDEQ is not interested in changing its position on pre-flushing until new regulations come out. They also pointed out that the pre-flushing instructions are not requirements, but suggestions.
- The Michigan pre-flushing instructions were developed as a way to ensure that sampled faucets were not stagnant for an excessive period of time beyond the targeted 6 hour (i.e., rarely used faucets or when a homeowner has been gone for an extended period of time).

Next Steps:

- **MDEQ will send a letter to Flint regarding the 2 rounds of 6-month monitoring results that exceed 5 ppb and the need for a corrosion control study. They will have discussions with Flint to request that they start corrosion control treatment as soon as possible rather than waiting for the completion of a study that can take 18 months.**
- **MDEQ and the Region were in agreement that it is important to get phosphate addition going in Flint as soon as possible. MDEQ mentioned tapping Mike Shock for help with this in the interim.**
- **Region 5 commented that we now have a path forward for Flint despite a difference of opinion on whether the regulations required Flint to "maintain" corrosion control treatment when they started serving treated water from the Flint River.**
- **MDEQ and Region 5 agreed that after Flint implements corrosion control treatment, when they switch back to Lake Huron water, they will need to continue the corrosion control treatment while conducting monitoring to determine if this treatment is optimized with the new Lake Huron water quality.**
- **Region 5 will get back to MDEQ once it gets HQ/OGC's opinion on the need to "maintain" corrosion control treatment once a system is deemed optimized.**
- **MDEQ and Region 5 agreed that other communities currently implementing corrosion control treatment and change sources will need to continue to provide corrosion control treatment and conduct monitoring to determine whether the treatment is optimized with the new source water quality.**
- **Region 5 will research and get back to MDEQ on the 141.81 (3)(b)(5) citation and the ability to waive a CCT study.**

DRAFT

From: Wyant, Dan (DEQ)
Sent: Sunday, March 22, 2015 3:29 PM
Subject: March 9, 2015, SMT Highlights - Message from Director Dan Wyant
Attachments: Legislation List 3.9.15.doc; OWMRP Presentation to SMT 3-9-2015.pptx; ALT project solicitation letter_2015_final.pdf

Dear DEQ Staff,

Below is the information from the March 9, 2015, Senior Management Team (SMT) meeting. If you have any questions or need clarification, please contact your division/office management directly.

DEQ SENIOR MANAGEMENT TEAM MEETING NOTES

Director's Report
Calendar items include a speech at the Michigan Municipal League, meetings with other state department directors, SMT/State Chamber reception, Michigan Recycling Council meeting, and other internal meetings. The Director will be at the Environmental Council of the States (ECOS) meeting on March 16-18, 2015, in Washington D.C. This travel will also include a meeting regarding ozone as well as Congressional visits.

Deputy Director's Report
Jim Sygo meet with the Department of Treasury regarding water and air permits tax exemptions. Jim will review the issues with Bill Creal and Lynn Fiedler.

Rich Alexander will be retiring this spring and interviews will be held in the near future for the chief of the Office of Environmental Assistance position. In addition, we are working on position descriptions for the district coordinator positions so that they can also be posted and filled as the time will be expiring on the current district coordinators.

DTMB Partnership Session - Laura Mester, MDOT Chief Administrative Officer, provided an overview of MDOT's partnership effort with DTMB to identify opportunities to address service issues. MDOT and DTMB underwent a yearlong process specifically focused on information technology service issues and were able to identify and implement solutions to provide greater role clarity, strengthened communication, and improved services. DEQ is considering undergoing a similar process.

Office of Policy
Dave Fiedler reported that the rules-set for 2013-101 EQ "Oil and Gas Operations" may be filed with the Office of the Great Seal the week of March 9, 2015 (this was done on March 11, 2015).

Jim Goodheart reported that the Healthy Waters initiative is progressing. Tribal meetings continue to be held as well.

Office of Communications
Brad Wurfel reported that the informational session and public hearing for two DTE Electric Company permits will be held on March 11, 2015, in River Rouge.

Brad continues to work on the city of Flint issues with the Office of Drinking Water and Municipal Assistance and with other agencies.

The State Journal did a recent article on the aging of state employees and future retirements.

Legislative

Sarah Howes reported that the House and Senate Natural Resources Committees will be holding a joint committee on Tuesday, March 10, 2015. Industry representatives including Andy Such of Michigan Manufacturers Association, John Griffin of API, and Jason Geer of the Michigan Chamber of Commerce will be testifying on the successes of the legislative changes to Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and to Part 213, Leaking Underground Storage Tanks, of NREPA. They will also discuss their increasingly positive relationships with the DEQ.

The House Tax Policy and House Oversight and Ethics Committees will be holding a hearing on the 2014 Brownfield Redevelopment Financing Program's Performance Audit. The Department of Treasury, Michigan Economic Development Corporation and the Department of Environmental Quality will present on this together.

House Regulatory Reform Committee will be voting out House Bill 4054, authored by Representative Andy Schor, which aims to create better communication between regulatory agencies in regards to mobile home communities.

Attached is the legislative update for the week of March 9, 2015.

Division/Office Chief Reports

Remediation and Redevelopment Division

Please see the legislative report.

Office of Oil, Gas, and Minerals

In a recent case, the Michigan Court of Appeals agreed with landowners that the MPSC did not document its review of environmental impacts for a pipeline segment. This is just a reminder of the importance of documenting our processes, even if that means just checking a box that it has been done. Our high-volume hydraulic fracturing rules will have resided with JCAR for the requisite 15 session days as of March 10, 2015. Controversy over oil and gas drilling in high-density residential areas continues; two bills were recently introduced—one to grant zoning authority over oil and gas operations to townships and counties, and one to increase setbacks to 1,000 feet in high-population counties.

Office of Drinking Water and Municipal Assistance

The ODWMA staff attended the Michigan Groundwater Association (well drillers) Convention and Trade Show in Battle Creek. Staff participated both as speakers and as attendees. The conference was an excellent opportunity to improve communications and develop our ongoing relationship with stakeholders.

Office of Waste Management and Radiological Protection

Bryce Feighner, Chief, OWMRP, presented information on priorities and updates. Please see the attached PowerPoint for some great information on the OWMRP.

Office of Environmental Assistance

The DEQ will host the next planning meeting of the Governor's Recycling Summit in Constitution Hall on March 17, 2015. Registration for the Recycling Summit along with the Michigan Recycling Coalition Annual Conference begin March 9, 2015 http://michiganrecycles.org/index.php?option=com_content&view=article&id=109&Itemid=1498.

The OEA and OWMRP are once again delivering the Introduction to Hazardous Waste Webinar Series. The first part of the series was held on March 4, 2015, with over 440 people in attendance. More information about the three part series as well as other upcoming training can be found at www.michigan.gov/deqworkshops.

The on-line application for the Quality of Life Leadership Academy will go live Monday, March 16, 2015. The application can be accessed at the QOL Leadership Academy SharePoint. Brown bag information sessions will be offered the week of March 16, 2015, in DEQ's Cadillac, Gaylord, Jackson, Warren, and Constitution Hall locations. There will also be an information session offered at the MDARD's Third Thursday Leadership meeting on March 19, 2015.

Proposals for QOL Leadership Academy action learning projects are being accepted until May 1, 2015. Please read the attached letter for details, which includes a link to the on-line submittal form. Questions may be directed to Mary Goodhall at 284-6859, or goodhallm@michigan.gov.

Water Resources Division

Bill Creal, Chief, Water Resources Division, has decided to retire after 36 years of service to the State of Michigan. His last day will be April 30, 2015.

District Updates

Jackson:

The Jackson district hosted an IDP brownbag lunch, the brownbag lunch was organized by Larry Bean and was held on Wednesday, March 4, 2015. It was well attended by approximately 10 district staff.

On Monday afternoon March 9, 2015, the Jackson district facilitated a meeting on the Tyler Dam, involving Revolving Loan Fund staff and multiple others inside and outside the department to address multi-program issues in an effort to aid in getting an approvable loan closed by the end of this fiscal year.

The RRD staff will be having its quarterly meeting with RACER Trust, Ypsilanti Township; Walbridge, Ann Arbor Spark, and others on Tuesday, March 10, 2015.

The Jackson district supervisors are sponsoring the Jackson district annual Employee Appreciation lunch on Thursday, March 12, 2015.

Jackson district coordinator Mitch Adelman is doing a Guest Lecture on Urban geochemistry at Eastern Michigan University on March 16, 2015.

Jackson district's Scott Miller has organized a Quality of Life Leadership Academy Question and Answer session for interested Jackson district staff to be held on March 17, 2015.

Other Items

Next Meeting: March 23, 2015

Thank you. Happy Spring!

Dan Wyant
Director

Attachments

Subject: FW: DM/HH/DM Meeting with Flint Ministers
Location: Romney Bldg -- Governor's Cabinet Room

Start: Wed 2/4/2015 2:00 PM
End: Wed 2/4/2015 3:00 PM
Show Time As: Free

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Clayton, Stacie (GOV)

Brad Wurfel to attend this 2:00 meeting at the Romney Bldg.

-----Original Appointment-----
From: Clayton, Stacie (GOV)
Sent: Wednesday, February 04, 2015 9:37 AM
To: Clayton, Stacie (GOV); Hollins, Harvey (GOV); Muchmore, Dennis (GOV); Murray, David (GOV); Wisniewski, Wendy (GOV); Wyant, Dan (DEQ); Saxton, Thomas (Treasury); Thelen, Mary Beth (DEQ); Pleyte, Beth (Treasury)
Subject: DM/HH/DM Meeting with Flint Ministers
When: Wednesday, February 04, 2015 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Romney Bldg -- Governor's Cabinet Room

Purpose
To continue discussion regarding Flint water matters and $2million grants announced at Press Conference on Tuesday (2/3/15)

Attendees
Dennis Muchmore
Harvey Hollins
David Murray
Rep. Sheldon Neely
Pastor David Gailbraith, Michigan Prophetic Voices
Rev. Alfred Harris, President of Concerned Pastors of Flint
Rev. Ira Edwards
Pastor Latrelle Holmes
Pastor Daniel Moore, Shiloh Missionary Baptist Church
Pastor Byron Moore, Vernon Chapel
Superintendent Chris Martin, Cathedral of Faith
Bishop Bernadel Jefferson, Faith Deliverance Center
Pastor Rodney Ellison
Rev. Jay Cummings
Pastor Charles Dantzler
Pastor Monique Turner
Pastor Floyd Fuller
Pastor Gerald Caldwell
Pastor Quentin Marshall
Pastor Patrick McNeil

Pastor Montez Warre
Pastor Mark Jones
Pastor Allen Overton
Pastor Wallace Hill

Subject: Flint Water Conf Call

Start: Fri 9/18/2015 8:00 AM
End: Fri 9/18/2015 9:00 AM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Clayton, Stacie (GOV)
Required Attendees: Hollins, Harvey (GOV); Muchmore, Dennis (GOV); Posthumus, Dick (GOV); Brown, Eric (GOV); Lyon, Nick (DCH); Wyant, Dan (DEQ); Khouri, Nick (TREASURY); Wisniewski, Wendy (GOV); Rospond, Laurie (GOV); Grijalva, Nancy (DCH); Thelen, Mary Beth (DEQ); Doyle, Maureen (Treasury); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Optional Attendees: Mcbride, Bill (GOV)

Call In: **PPI**
Access: **PPI**
Harvey will host

Agenda

DEQ update on Flint water and elected officials briefing
Dennis Muchmore update
Harvey Hollins update
Treasury update
DHHS update
Action steps going forward (DEQ)

Participants

Dennis Muchmore
Dick Posthumus
Harvey Hollins
Eric Brown
Bill McBride
Nick Lyon
Dan Wyant
Nick Khouri

Subject:	Phone call with EPA re: Flint water briefing
Location:	Dan we will call you
Start:	Fri 9/18/2015 9:30 AM
End:	Fri 9/18/2015 10:00 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Pallone, Maggie (DEQ)
Required Attendees:	Busch, Stephen (DEQ); Wyant, Dan (DEQ); Wurfel, Brad (DEQ) (WurfelB@michigan.gov); Feuerstein, Heather (DEQ); Thelen, Mary Beth (DEQ)

Maggie - 10:30 a.m. ET works for us. Please call me at 312-519-8691 and we'll patch in Tinka.

Subject:	Elected leaders briefing on City of Flint water
Location:	Great Lakes Conference Room
Start:	Mon 9/21/2015 8:00 AM
End:	Mon 9/21/2015 9:30 AM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	Pallone, Maggie (DEQ)
Required Attendees:	Wyant, Dan (DEQ); Sygo, Jim (DEQ); Wurfel, Brad (DEQ) (WurfelB@michigan.gov); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Feuerstein, Heather (DEQ); Devereaux, Tracy Jo (DEQ)

MP 9/17- Updating Room and attendees

Attending
EPA Region 5 Water Director Tinka Hyde
EPA Region 5 Congressional Liaison Denise Fortin
US Senator Gary Peters (invited)
US Senator Debbie Stabenow's staff
    Teresa Plachetka
Derrick Mathis, Regional Manager
Congressman Kildee
Senator Jim Ananich
Representative Phil Phelps
Representative Sheldon Neeley

Subject: Conf Call re Flint Water
Location: PPI #

Start: Thu 9/24/2015 2:30 PM
End: Thu 9/24/2015 3:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Muchmore, Dennis (GOV)
Required Attendees: Harvey Hollins (hollinsh@michigan.gov); Clement, Elizabeth (GOV) (clemente@michigan.gov); Clayton, Stacie (GOV); Baird, Richard (GOV); VanSickle, Michele (GOV) (vansicklem2@michigan.gov); Murray, David (GOV); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Wurfel, Brad (DEQ); Lyon, Nick (DCH); Lasher, Geralyn (DCH); Grijalva, Nancy (DCH); Saxton, Thomas (Treasury) (SaxtonT@michigan.gov); Pleyte, Beth (Treasury); Walsh, John (GOV) (WalshJ@michigan.gov); Hall, Jean (GOV); Mcbride, Bill (GOV)

PPI
PPI
*8720 – Harvey to host

Subject:	Comms. Update Mtg. re: Flint Water Plan
Location:	Great Lakes Conference Room, 6th floor, South Tower, Constitution Hall
Start:	Thu 10/1/2015 12:30 PM
End:	Thu 10/1/2015 1:15 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Kennedy, Jordan (GOV)
Required Attendees:	Lasher, Geralyn (DHHS); Eisner, Jennifer (DHHS); Minicuci, Angela (DHHS); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Feuerstein, Heather (DEQ); Stanton, Terry A. (Treasury); Wurfel, Sara (GOV); Murray, David (GOV); Paciorek, Josh (GOV)
Optional Attendees:	Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ)

Pizza will be provided.

Subject:	Hold the Day for Flint (1:30)
Location:	Kettering University, 1300 Bluff Street, Flint 48505
Start:	Fri 10/2/2015 8:00 AM
End:	Fri 10/2/2015 5:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Thelen, Mary Beth (DEQ)
Required Attendees:	Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Wyant, Dan (DEQ); Tommasulo, Karen (DEQ); Shaw, Eric (DEQ); Krisztian, George (DEQ); 'Sygo, Jim (DEQ) (SygoJ@michigan.gov)'; Benzie, Richard (DEQ)
Optional Attendees:	Shaler, Karen (DEQ); Feuerstein, Heather (DEQ); Pallone, Maggie (DEQ); Shekter Smith, Liane (DEQ); Devereaux, Tracy Jo (DEQ)

Sending meeting notice to DEQ participants.

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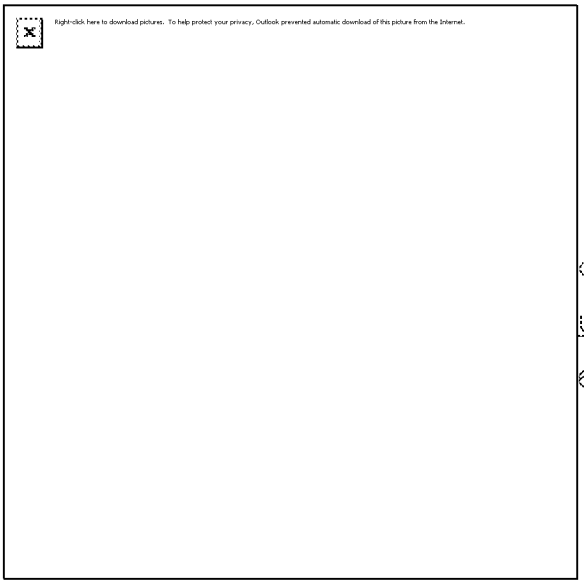
Oct. 1, 2015

Michigan leaders to announce action plan for Flint drinking water

Friday, Oct. 2 at 1:30 p.m.
Local, state and federal leaders will host a press conference to announce a comprehensive action plan for addressing drinking water concerns in Flint. Participants will include:
• Harvey Hollins, Director of the Office of Urban Initiatives for Gov. Rick Snyder
• Dan Wyant, Director for the Michigan Department of Environmental Quality
• Nick Lyon, Director for the Michigan Department of Health and Human Services
• Dr. Eden Wells, Chief Medical Executive for the Michigan Department of Health and Human Services
• Dayne Walling, Mayor of Flint
• Other local, state and federal officials

Location:
Kettering University, Innovation Center
1300 Bluff St.
Flint, MI 48504

This is a media event open to credentialed news media only. Media who plan to attend this event should RSVP by noon Friday. Contact Rosemarie Olszewski at 517-284-6700 or olszewskir@michigan.gov.



Questions?
Contact Us
Ph: 800-662-9278

Subject: FW: RDS - Pre-Brief for Flint Water Media Conference Call
Location: By Phone

Start: Fri 10/2/2015 10:00 AM
End: Fri 10/2/2015 10:10 AM

Recurrence: (none)

Meeting Status: Accepted

Organizer: GovCalendar

Brad, this is the call in for the 11:00 but make sure you use the second one – not the Governor's one.

-----Original Appointment-----
From: GovCalendar
Sent: Thursday, October 01, 2015 5:31 PM
To: GovCalendar; Wyant, Dan (DEQ); Lyon, Nick (DHHS); Wells, Eden (DHHS); Grijalva, Nancy (DHHS); Thelen, Mary Beth (DEQ); Hansen, Rachel (GOV); Wurfel, Sara (GOV)
Subject: RDS - Pre-Brief for Flint Water Media Conference Call
When: Friday, October 02, 2015 8:00 AM-8:10 AM (UTC-08:00) Pacific Time (US & Canada).
Where: By Phone

RDS to Call: PPI

PPI

ACCESS CODE: **PPI**

HOST PASSWORD: PPI – SW to host

Subject: Fwd: RDS - REMARKS (AHeaton) Press Conference Re: Flint Water
Location: Mott Foundation Conference Center, 503 S. Saginaw, Flint

Start: Thu 10/8/2015 9:00 AM
End: Thu 10/8/2015 9:35 AM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: GovCalendar

Sent from my iPhone

Begin forwarded message:

From: "GovCalendar" <GovCalendar@michigan.gov>
To: "Agen, Jarrod (GOV)" <AgenJ@michigan.gov>, "Biehl, Laura (GOV)" <BiehlL@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>, "Clayton, Stacie (GOV)" <claytons3@michigan.gov>, "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>, "Grijalva, Nancy (DHHS)" <GrijalvaN@michigan.gov>
Subject: RDS - REMARKS (AHeaton) Press Conference Re: Flint Water

Purpose: Press conference regarding Flint water

Program Participants:
Flint Mayor Dayne Walling
DEQ Director Dan Wyant
DHHS Director Nick Lyon
Dr. Eden Wells, DHHS
Ridgeway White, Mott Foundation
Harvey Hollins

Non-Speaking Invitees: (all attendance unconfirmed)
Sen. Jim Ananich
Rep. Tim Greimel
Rep. Phil Phelps
Rep. Sheldon Neely
Flint City Councilmembers
Faith Based Community members
U of M Flint Chancellor Susan Borrego (RDS talked to 10/7/15 at the Higher Ed Summit)
Amy Hovey, Staff of Congressman Dan Kildee
Jamie Gaskin, CEO of Genesee County United Way
Tim Herman, CEO of Flint and Genesee Chamber of Commerce
Brian Larkin, Flint and Genesee Chamber of Commerce (fmr. EO staff)

Kathryn Thomas, VP of Communications for Mott Foundation
Neal Hegarty, VP of Programs for Mott Foundation
Kimberly Roberson, Director of Flint Area Grantmaking Program for Mott Foundation

Agenda:

10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon brief comments, introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium (SW to moderate)
10:35 AM	Event concludes; Governor departs

OPEN Press

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
  - All Michigan residents need access to safe, clean water
- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.
- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
  - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
- What you are seeing here today is a community coming together to work toward solving a problem.
  - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
  - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Attachments:

1. Briefing
2. FAQs for Media Q&As
3. Press Release

Staff/Detail
Venue POC: Kathryn Thomas (mobile?) **PPI**
Security POC: Phil Snyder (mobile) **PPI**
Advance: CLU


Briefing.pdf

ATT00001.htm

FAQs for Media Q&As.pdf

ATT00002.htm

Press Release.pdf

ATT00003.htm

Comms: All


ATT00004.htm

Briefing: Flint Water System Press Conference
Thursday, Oct. 8, 2015
Mott Foundation/Commerce Center Building Ground Floor
519 S. Saginaw St., Flint
Communications: Sara Wurfel, 517-599-3470, wurfels@michigan.gov
Dave Murray, 517-449-8343, murrayd1@michigan.gov

Purpose:

We're announcing the decision to reconnect Flint to the Detroit Water and Sewerage Department, a collaborative effort between the state government, Flint city government and the Mott Foundation.

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water.

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Agenda:

9:00 AM - 9:45 AM	Gov meets with Mayor Walling in [Room 1]
9:45 AM – 10:00 AM	Pre-Brief in [Room 2]
10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
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10:16 AM – 10:17 AM	Director Nick Lyon introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium
10:35 AM	Event concludes; Governor departs

Attendees: Roughly 20 in audience

Susan	Borrego	Chancellor, U of M Flint
Oscar	Overton	Pastor
Alfred	Harris	Pastor

Latrelle	Holmes	Pastor
Jim	Ananich	Michigan Senate
Sheldon	Neely	Michigan House
Phil	Phelps	Michigan House
Jeff	Wright	Drain Commissioner, Genesee County
Amy	Hovey	Dan Kildee office
Jamie	Gaskin	Dan Kildee office
Tim	Herman	Flint Chamber of Commerce
Brian	Larkin	Flint Chamber of Commerce
Eric	Mays	Flint City Council
Jacqueline	Poplar	Flint City Council
Kerry	Nelson	Flint City Council
Joshua	Freeman	Flint City Council
Wantwaz	Davis	Flint City Council
Herbert	Winfrey	Flint City Council
Monica	Galloway	Flint City Council
Vicki	VanBuren	Flint City Council
Scott	Kincaid	Flint City Council

Speaker comments:

RDS – Collaboration led to solution, outline of solution
Mayor Walling – Importance of solution to Flint
Dan Wyant – School testing results, overview of steps on transition from Flint River to DWSD
Nick Lyon – DHHS involvement
Dr. Eden Wells – Testing of water going forward, use of filters approved by NSF
Ridgway White – Importance of collaboration/commitment to Flint

Talking points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
    - The Michigan Department of Health and Human Services and the Department of Environmental Quality today also is committing an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

- Today's announcement in an important step as we move forward together.
    - But it is not our first step, nor will it be our last.

        - This announcement builds on work we've already set in place.
            - That includes $4.2 million in state grants and loan restructuring to help identify and fix infrastructure problems.
            - State agencies have been working closely with Flint leaders and the community for more than a year.

- There will be more to do.
    - Flint has an aging water infrastructure system with challenges that we – together – will continue to address.

- We will continue to test Flint schools for lead levels in drinking water.
    - Schools across the state might also have questions.
    - The Department of Environmental Quality will work with districts across the state to provide testing.
        - Districts can send water samples and paperwork and the nominal charge. (It costs $26 per sample).

- The steps outlined in the comprehensive action plan are still in effect.

FAQs for Media Q&As

Switch to Great Lakes Water Authority

What finally pushed the state to this decision?

This was the City's request, and the Governor supports it, based on several key factors:
In the near term, DWSD water will be easier to manage. It comes from a more stable source than the river, it is fully optimized for corrosion control, and it is clear that residents of Flint have more confidence in this water source.

Will this solve Flint's water crisis?

In combination with the other short term, intermediate term and long-term steps outlined last week, this move represents a big step forward. Flint still has serious system maintenance challenges it must address.

If you're saying residents will still have lead because of their plumbing, does that mean every other city in this state has a lead problem?

Many areas of the state have lead in their infrastructure mix.

Where's the state getting the money to fund this?

We have submitted a formal request to lawmakers via the appropriations process.

Where's the city getting the money to fund this?

The city is contributing all it can, and is getting assistance for its match from the Mott Foundation.

How long will the switch take?

The switch will be completed by the City and Great lakes Water Authority, but our understanding is that it can be accomplished in the very near term once the arrangements are complete.

How long will it take before Detroit's corrosion controls provide protection for Flint?

It will take some time for the corrosion control additives to build on pipe walls throughout the system. Estimates vary. The state can assure we will commence monitoring of the system early 2016 and report results as we get them to keep the community updated.

Why do residents still need to use filters and bottled water?

The filters and bottled water are responsible precautions for any resident concerned about lead exposure.

Do the filters actually work? We've been hearing they don't protect for lead.

Yes, the filters work. They are all certified for lead removal by the National Sanitation Foundation.

The filters are only good for 100 gallons. What happens when they are used up?

They will need to be replaced. And residents can get a new filter.

What about restaurants?

What's going to be done about lead service lines?

Long term, this is the only permanent solution to lead exposure. The state has committed to helping the city accomplish this goal long term.

Do you wish you'd made this switch sooner?
We support the City's decision. We can't look backward. We feel the state has responded quickly and effectively as information has surfaced, been investigated and verified. While the City of Flint is, right now, in compliance with the federal Lead and
Copper Rule, we recognize there is a disparity between surveillance testing and other testing happening in the community that we need to better understand and we are working on developing our knowledge.

Schools testing

What do these results say?
The results say we need to further investigate Flint schools and help the schools find clearer causes for some the results we got.

Any theories about what's going on?
It is possible there are specific points in the plumbing that have lead components which need to be replaced, but we can't say anything definitively until we perform an investigation at each school.

Do the schools have lead service lines? If not, why are they getting such high results?
The schools we tested initially do not have lead service lines. There are a few possible reasons why lead is being detected at specific points in the buildings and not others. When we know things definitively, we will make the information public.

How long do the schools have to stay on bottled water? Just until the switch to Detroit, or longer term?
We are encouraging the schools to continue their current protective measures as a precaution until we can get into the buildings and get more answers.

Why did you only test 13 schools?
That was what the Flint Public Schools requested.

What happens to other schools?
We will test all the schools in Flint if they request it.

What about the schools that can't afford to update their entire plumbing systems?
This is why we are having plumbing assessments completed. There is no way to know yet what each building will require.

How confident are you in your testing? You've got results all over the map.
We are confident that our testing meets the requirements for the federal Lead and Copper Rule, which is surveillance monitoring. The bigger question is whether surveillance monitoring meets the public health protection standards that Lead Exposure Testing methods do. The EPA is working on that question now, and we are engaged in that dialogue.

What do you mean by "health exposure testing"? What are you doing next?

The 90th percentile of your results is still below 15 ppb. Does that make you more or less confident in your testing and in your protocols?

It makes us confident that the testing protocol delivers consistent results. But again, it does raise questions about whether this testing method shows what people think it does or what they really want to know, which is actual lead exposure from lead plumbing in a home.

Any idea how long kids have been exposed to lead? Was it before the move to the Flint River?
That is possible. We don't know.

How does the state bring this new information into the broader picture of kids' lead exposure across the state?

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray Governor's Office: 517-335-6397 Brad Wurfel, 517-284-6713 Department of Environmental Quality Jennifer Eisner, 517-230-9804 Department of Health and Human Services	Thursday, Oct. 8, 2015

Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint

State, Mott Foundation and city form partnership to fund switch

FLINT, Mich. – Flint families and children will be better protected by reconnecting with the Great Lakes Water Authority as the source of the city's drinking water, Gov. Rick Snyder said.

Snyder said Thursday that he will request the state Legislature to provide half, or $6 million, of the $12 million needed to reconnect with the authority. The Flint city government will provide $2 million and the Charles Stewart Mott Foundation will donate $4 million.

"All Flint residents need clean, safe drinking water," Snyder said. "The technical experts helping the city on its water advisory all agree this move back to the Great Lakes Water Authority provides the best public health protection for children and families. This effort today is the result of people coming together to solve a problem. I appreciate Detroit's willingness to reconnect with Flint, the Mott Foundation's generous donation, and the dedication of all parties to come together to protect Flint families and children."

The Michigan Departments of Environmental Quality and Health and Human Services today also committed an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

Flint city leaders requested the state's help to fund the reconnection after a Wednesday meeting of Flint's Technical Advisory Committee. Flint's move to the Great Lakes Water Authority is expected to cost about $1.3 million per month until the Karegnondi Water Authority is completed next summer.

INSERT MAYOR QUOTE HERE

The move to Detroit water, which is drawn from Lake Huron, carries many public health benefits. As large bodies of water, the Great Lakes are naturally prone to fewer problems from large rain events and other runoff issues that can be present in shallower rivers. Additionally, the Great Lakes Water Authority has already fully optimized its corrosion control, using phosphates to help coat the insides of pipes and prevent lead from leaching into the water.

However, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control. Additionally, some households in the city could experience lead in their drinking water until all lead pipes and plumbing are replaced.

INSERT MOTT FOUNDATION QUOTE HERE

To best protect public health, Snyder said state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure.

Free filters are available for current MDHHS clients at the 125 E. Union St. or 4809 Clio Road MDHHS office locations. For residents who are not currently enrolled in MDHHS assistance programs, free filters are available at the Genesee County Community Action Resource Department offices at 2727 Lippincott and 601 North Saginaw in Flint. Staff will be at all four locations from 9 a.m. to 4 p.m., Monday through Friday, to distribute filters and assist residents who have questions about proper installation. At the Lippincott location only, extended hours will be offered this weekend, including until 7 p.m. on Thursday and Friday and from 10 a.m. to 2 p.m. on Saturday.

Other good practices for residents concerned about lead include turning on the cold water tap and running the water until it's as cold as it will go. Additionally, only use cold water for cooking, drinking and especially mixing baby formula.

School test results released; more investigation planned

The state today also released the first results from its lead screening program in schools and homes. Of 37 total samples taken at 13 buildings, four samples spread over three buildings exceeded the federal action level of 15 parts per billion.

However, this sampling provides only an initial screen, and the state is committing to further testing water and inspecting plumbing at these schools. Until testing is complete, schools are advised to continue using bottled water and filtration as a precaution to protect children.

In addition, free testing is still available for any other Flint school, including daycares and Head Starts. Free testing is also available for any Flint resident.

Additional information, including more detailed lead screening results, is available at www.michigan.gov/flintwater.

###

From: Olszewski, Rosemarie (DEQ)
Sent: Tuesday, February 03, 2015 9:32 PM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Feuerstein, Heather (DEQ)
Subject: Snyder sends funds to help Flint's water system

News story w/video.

Rosemarie

Rosemarie Olszewski

General Office Assistant - Executive Division

Department of Environmental Quality

Ph: 517-284-6700

Fax: 517-241-7401

olszewskir@michigan.gov

From: Google Alerts <googlealerts-noreply@google.com>
Sent: Tuesday, February 3, 2015 8:05 PM
To: Olszewski, Rosemarie (DEQ)
Subject: Google Alert - michigan department environmental quality

michigan department environmental quality

As-it-happens update - February 4, 2015

NEWS

Snyder sends funds to help Flint's water system

minnbcnews.com

"As we see here today, the water is meeting all standards," said Dan Wyant, director of **Michigan's Department** of **Environmental Quality**.

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From: Olszewski, Rosemarie (DEQ)
Sent: Friday, February 27, 2015 2:17 PM
To: Alexander, Richard (DEQ);Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Datema, Maggie (DEQ);Epkey, Amy (DEQ);Erickson, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Hellwig, Vince (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Feuerstein, Heather (DEQ);Flores, Benita (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Shaler, Karen (DEQ);Slater, Donna (DNR);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Edlin, Karen (DEQ);Patterson, Leigh (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of February 23, 2015
Attachments: E-Clips 022315.pdf

DEQ e-clips

Week of February 23, 2015

Advisor & Source: Forum working to bring new life to trash
http://www.sourcenewspapers.com/articles/2015/02/27/news/doc54ee0b9448e61457530654.prt

Detroit Free Press: U-M report suggests fracking regulatory improvements
http://www.freep.com/story/news/local/michigan/2015/02/20/fracking-michigan-regulations-university-report/23763851/

Bill could protect Great Lakes from invasive species
http://www.freep.com/story/news/local/michigan/2015/02/26/invasive-species-measure/24055289/

Detroit News: Save the Great Lakes, act on Asian carp
http://www.detroitnews.com/story/opinion/2015/02/26/miller-stabenow-asian-carp/24015061/

Great Lakes Echo: Pipeline company intervenes in Sierra Club suit against Forest Service
http://greatlakesecho.org/2015/02/27/pipeline-company-intervenes-in-sierra-club-suit-against-forest-service/#

Holland Sentinel: Holland's Project Clarity looking for support as it enters second year
http://www.hollandsentinel.com/article/20150225/NEWS/150229290/1994/NEWS?template=printart

MLive: Michigan joins other Great Lakes states in considering microbead products ban
http://www.mlive.com/news/index.ssf/2015/02/microbeads_ban_michigan.html#incart_river

Allied Paper cleanup compromise met with cautious optimism during first public unveiling
http://blog.mlive.com/kzgazette_impact/print.html?entry=/2015/02/allied_paper_cleanup_compromis_2.html

12 critical facts about TTHM, the stubborn Flint water contaminant
http://blog.mlive.com/newsnow_impact/print.html?entry=/2015/02/the_abcs_of_tthm_10_critical_f.html

The Daily Tribune: Sewer system plan met with opposition, tabled in Ortonville
http://www.dailytribune.com/general-news/20150224/sewer-system-plan-met-with-opposition-tabled-in-ortonville

The Morning Sun: Central Michigan University professor weighs in on Enbridge Pipeline
http://www.themorningsun.com/general-news/20150221/central-michigan-university-professor-weighs-in-on-enbridge-pipeline?fb_ref=Default&template=printart

No trouble finding more contamination in St. Louis
http://www.themorningsun.com/environment-and-nature/20150220/no-trouble-finding-more-contamination-in-st-louis

Alma intends to find out what's happening to the Pine River
http://www.themorningsun.com/general-news/20150225/alma-intends-to-find-out-whats-happening-to-the-pine-river

The Voice: New Baltimore seeks public input for sustainable harbor study
http://www.voicenews.com/articles/2015/02/25/news/doc54ee37b6e70b7849262991.txt?viewmode=fullstory

The Ypsilanti Courier: Student design team wins international recognition for research on Willow Run property remediation
http://www.heritage.com/articles/2015/02/25/ypsilanti_courier/news/doc54ecfaaa26265843561759.txt?viewmode=fullstory

UpperMichigansSource: Michigan House throws support behind CR 595
http://www.uppermichiganssource.com/news/story.aspx?id=1169206#.VO9ml6Mo7bg

Forum working to bring new life to trash
http://www.uppermichiganssource.com/news/story.aspx?id=1170266#.VPCSkqMo7bg

WHMI: DEQ to Review Plans Addressing Violations at Waldenwoods Resort
http://whmi.com/news/article/22033

Wood TV8: At least 2,700 gallons of diesel fuel spills in BC
http://woodtv.com/2015/02/23/at-least-2700-gallons-of-diesel-fuel-spills-in-battle-creek/

Waste 360: Michigan Battles to Improve its "Woeful" Recycling Rate
http://waste360.com/business/michigan-battles-improve-its-woeful-recycling-rate

9 & 10 News: Great Lakes Areas of Concern to receive $7.9M grant
http://www.9and10news.com/story/28205555/great-lakes-areas-of-concern-to-receive-79m-grant

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of February 23, 2015

Advisor & Source: Forum working to bring new life to trash
http://www.sourcenewspapers.com/articles/2015/02/27/news/doc54ee0b9448e61457530654.prt

Detroit Free Press: U-M report suggests fracking regulatory improvements
http://www.freep.com/story/news/local/michigan/2015/02/20/fracking-michigan-regulations-university-report/23763851/

Bill could protect Great Lakes from invasive species
http://www.freep.com/story/news/local/michigan/2015/02/26/invasive-species-measure/24055289/

Detroit News: Save the Great Lakes, act on Asian carp
http://www.detroitnews.com/story/opinion/2015/02/26/miller-stabenow-asian-carp/24015061/

Great Lakes Echo: Pipeline company intervenes in Sierra Club suit against Forest Service
http://greatlakesecho.org/2015/02/27/pipeline-company-intervenes-in-sierra-club-suit-against-forest-service/#

Holland Sentinel: Holland's Project Clarity looking for support as it enters second year
http://www.hollandsentinel.com/article/20150225/NEWS/150229290/1994/NEWS?template=printart

MLive: Michigan joins other Great Lakes states in considering microbead products ban
http://www.mlive.com/news/index.ssf/2015/02/microbeads_ban_michigan.html#incart_river

Allied Paper cleanup compromise met with cautious optimism during first public unveiling
http://blog.mlive.com/kzgazette_impact/print.html?entry=/2015/02/allied_paper_cleanup_compromis_2.html

12 critical facts about TTHM, the stubborn Flint water contaminant
http://blog.mlive.com/newsnow_impact/print.html?entry=/2015/02/the_abcs_of_tthm_10_critical_f.html

The Daily Tribune: Sewer system plan met with opposition, tabled in Ortonville
http://www.dailytribune.com/general-news/20150224/sewer-system-plan-met-with-opposition-tabled-in-ortonville

The Morning Sun: Central Michigan University professor weighs in on Enbridge Pipeline
http://www.themorningsun.com/general-news/20150221/central-michigan-university-professor-weighs-in-on-enbridge-pipeline?fb_ref=Default&template=printart

No trouble finding more contamination in St. Louis
http://www.themorningsun.com/environment-and-nature/20150220/no-trouble-finding-more-contamination-in-st-louis

Alma intends to find out what's happening to the Pine River
http://www.themorningsun.com/general-news/20150225/alma-intends-to-find-out-whats-happening-to-the-pine-river

The Voice: New Baltimore seeks public input for sustainable harbor study
http://www.voicenews.com/articles/2015/02/25/news/doc54ee37b6e70b7849262991.txt?viewmode=fullstory

The Ypsilanti Courier: Student design team wins international recognition for research on Willow Run property remediation
http://www.heritage.com/articles/2015/02/25/ypsilanti_courier/news/doc54ecfaaa262658435617 59.txt?viewmode=fullstory

UpperMichigansSource: Michigan House throws support behind CR 595
http://www.uppermichiganssource.com/news/story.aspx?id=1169206#.VO9ml6Mo7bg

Forum working to bring new life to trash
http://www.uppermichiganssource.com/news/story.aspx?id=1170266#.VPCSkqMo7bg

WHMI: DEQ to Review Plans Addressing Violations at Waldenwoods Resort
http://whmi.com/news/article/22033

Wood TV8: At least 2,700 gallons of diesel fuel spills in BC
http://woodtv.com/2015/02/23/at-least-2700-gallons-of-diesel-fuel-spills-in-battle-creek/

Waste 360: Michigan Battles to Improve its "Woeful" Recycling Rate
http://waste360.com/business/michigan-battles-improve-its-woeful-recycling-rate

9 & 10 News: Great Lakes Areas of Concern to receive $7.9M grant
http://www.9and10news.com/story/28205555/great-lakes-areas-of-concern-to-receive-79m-grant

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, June 19, 2015 2:01 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Erickson, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Flores, Benita (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Shaler, Karen (DEQ);Slater, Donna (DNR);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of June 15, 2015
Attachments: E-Clips 061515.pdf

DEQ e-clips

Week of June 15, 2015

Detroit Free Press: Great Lakes leaders agree to cut phosphorus runoff
http://www.freep.com/story/news/local/michigan/2015/06/14/great-lakes-leaders-agree-cut-phosphorus-runoff/71233702/

Detroit News: Michigan has a duty to prevent a Great Lakes oil spill
http://www.detroitnews.com/story/opinion/2015/06/17/kirkwood-mich-protect-great-lakes/28820503/

Statewide benefits of fracking can lead to clean air
http://www.detroitnews.com/story/opinion/2015/06/18/johnston-keep-michigan-fracking/28884257/

Grand Haven Tribune: Dewey Hill complaint filed with DEQ
http://www.grandhaventribune.com/article/cross-controversy/1949171

Great Lakes Echo: Michigan landowners partner with feds on wetland restorations
http://greatlakesecho.org/2015/06/17/michigan-landowners-partner-with-feds-on-wetland-restorations/#

Holland Sentinel: Eaglets banded, tested in Ottawa County park to study freshwater ecosystem
http://www.hollandsentinel.com/article/20150613/NEWS/150619677

LSJ: Forum on mineral rights, drilling set for Monday
http://www.lansingstatejournal.com/story/news/local/2015/06/17/mason-drilling-forum/28879103/

MLive: Michner Plating foreclosed on with $1.6 million in back taxes, properties deemed unsafe by EPA
http://www.mlive.com/news/jackson/index.ssf/2015/06/michner_plating_foreclosed_on.html

Fix for oozing oil in Muskegon County's Bear Lake moves a step closer
http://blog.mlive.com/chronicle/news_impact/print.html?entry=/2015/06/fix_for_oozing_oil_in_muskegon.html

Office of the Great Lakes releases 30-year strategy for sustaining Michigan's precious water resources
http://blog.mlive.com/environment_impact/print.html?entry=/2015/06/office_of_the_great_lakes_rele.html

New E.coli test to dramatically reduce time to check water at beaches
http://www.mlive.com/news/flint/index.ssf/2015/06/new_ecoli_testing_method_to_dr.html

Petoskey News-Review: Peters, Stabenow propose plans to stave off Great Lakes threats
http://www.petoskeynews.com/featured-pnr/peters-stabenow-propose-plans-to-stave-off-great-lakes-threats/article_510662ec-3961-5abe-95e6-6fd4790c7d06.html?mode=print

The Macomb Daily: Miller: Microbeads are ruining our waterways, and it's time for action
http://www.macombdaily.com/opinion/20150616/miller-microbeads-are-ruining-our-waterways-and-its-time-for-action&template=printart

The Times Herald: Black River Canal dredging begins
http://www.thetimesherald.com/story/news/local/port-huron/2015/06/17/black-river-canal-dredging-begins/28856413/

The Toledo Blade: 2 from GOP want Monroe County off limits for drilling injections
http://www.toledoblade.com/local/2015/06/13/2-from-GOP-want-Monroe-Co-off-limits-for-drilling-injections.html

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of June 15, 2015

Detroit Free Press: Great Lakes leaders agree to cut phosphorus runoff
http://www.freep.com/story/news/local/michigan/2015/06/14/great-lakes-leaders-agree-cut-phosphorus-runoff/71233702/

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http://www.mlive.com/news/jackson/index.ssf/2015/06/michner_plating_foreclosed_on.html

Fix for oozing oil in Muskegon County's Bear Lake moves a step closer
http://blog.mlive.com/chronicle/news_impact/print.html?entry=/2015/06/fix_for_oozing_oil_in_muskegon.html

Office of the Great Lakes releases 30-year strategy for sustaining Michigan's precious water resources
http://blog.mlive.com/environment_impact/print.html?entry=/2015/06/office_of_the_great_lakes_rele.html

New E.coli test to dramatically reduce time to check water at beaches
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Petoskey News-Review: Peters, Stabenow propose plans to stave off Great Lakes threats
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The Macomb Daily: Miller: Microbeads are ruining our waterways, and it's time for action
http://www.macombdaily.com/opinion/20150616/miller-microbeads-are-ruining-our-waterways-and-its-time-for-action&template=printart

The Times Herald: Black River Canal dredging begins
http://www.thetimesherald.com/story/news/local/port-huron/2015/06/17/black-river-canal-dredging-begins/28856413/

The Toledo Blade: 2 from GOP want Monroe County off limits for drilling injections
http://www.toledoblade.com/local/2015/06/13/2-from-GOP-want-Monroe-Co-off-limits-for-drilling-injections.html

Subject: Fwd: RDS - REMARKS (AHeaton) Press Conference Re: Flint Water
Location: Mott Foundation Conference Center, 503 S. Saginaw, Flint

Start: Thu 10/8/2015 9:00 AM
End: Thu 10/8/2015 9:35 AM
Show Time As: Tentative

Recurrence: (none)

Organizer: GovCalendar

Sent from my iPhone

Begin forwarded message:

From: "GovCalendar" <GovCalendar@michigan.gov>
To: "Agen, Jarrod (GOV)" <AgenJ@michigan.gov>, "Biehl, Laura (GOV)" <BiehlL@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>, "Clayton, Stacie (GOV)" <claytons3@michigan.gov>, "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>, "Grijalva, Nancy (DHHS)" <GrijalvaN@michigan.gov>
Subject: RDS - REMARKS (AHeaton) Press Conference Re: Flint Water

Purpose: Press conference regarding Flint water

Program Participants:
Flint Mayor Dayne Walling
DEQ Director Dan Wyant
DHHS Director Nick Lyon
Dr. Eden Wells, DHHS
Ridgeway White, Mott Foundation
Harvey Hollins

Non-Speaking Invitees: (all attendance unconfirmed)
Sen. Jim Ananich
Rep. Tim Greimel
Rep. Phil Phelps
Rep. Sheldon Neely
Flint City Councilmembers
Faith Based Community members
U of M Flint Chancellor Susan Borrego (RDS talked to 10/7/15 at the Higher Ed Summit)
Amy Hovey, Staff of Congressman Dan Kildee
Jamie Gaskin, CEO of Genesee County United Way
Tim Herman, CEO of Flint and Genesee Chamber of Commerce
Brian Larkin, Flint and Genesee Chamber of Commerce (fmr. EO staff)
Kathryn Thomas, VP of Communications for Mott Foundation
Neal Hegarty, VP of Programs for Mott Foundation
Kimberly Roberson, Director of Flint Area Grantmaking Program for Mott Foundation

Agenda:

10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon brief comments, introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium (SW to moderate)
10:35 AM	Event concludes; Governor departs

OPEN Press

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
  - All Michigan residents need access to safe, clean water
- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.
- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
  - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
- What you are seeing here today is a community coming together to work toward solving a problem.
  - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
  - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Attachments:

1. Briefing
2. FAQs for Media Q&As
3. Press Release

Staff/Detail

Venue POC: Kathryn Thomas (mobile?) PPI

Security POC: Phil Snyder (mobile) PPI

Advance: CLU


Briefing.pdf


ATT00001.htm


FAQs for Media Q&As.pdf


ATT00002.htm


Press Release.pdf


ATT00003.htm

Comms: All


ATT00004.htm

Briefing: Flint Water System Press Conference
Thursday, Oct. 8, 2015
Mott Foundation/Commerce Center Building Ground Floor
519 S. Saginaw St., Flint
Communications: Sara Wurfel, 517-599-3470, wurfels@michigan.gov
Dave Murray, 517-449-8343, murrayd1@michigan.gov

Purpose:

We're announcing the decision to reconnect Flint to the Detroit Water and Sewerage Department, a collaborative effort between the state government, Flint city government and the Mott Foundation.

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water.

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Agenda:

9:00 AM - 9:45 AM	Gov meets with Mayor Walling in [Room 1]
9:45 AM – 10:00 AM	Pre-Brief in [Room 2]
10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium
10:35 AM	Event concludes; Governor departs

Attendees: Roughly 20 in audience

Susan	Borrego	Chancellor, U of M Flint
Oscar	Overton	Pastor
Alfred	Harris	Pastor

Latrelle	Holmes	Pastor
Jim	Ananich	Michigan Senate
Sheldon	Neely	Michigan House
Phil	Phelps	Michigan House
Jeff	Wright	Drain Commissioner, Genesee County
Amy	Hovey	Dan Kildee office
Jamie	Gaskin	Dan Kildee office
Tim	Herman	Flint Chamber of Commerce
Brian	Larkin	Flint Chamber of Commerce
Eric	Mays	Flint City Council
Jacqueline	Poplar	Flint City Council
Kerry	Nelson	Flint City Council
Joshua	Freeman	Flint City Council
Wantwaz	Davis	Flint City Council
Herbert	Winfrey	Flint City Council
Monica	Galloway	Flint City Council
Vicki	VanBuren	Flint City Council
Scott	Kincaid	Flint City Council

Speaker comments:

RDS – Collaboration led to solution, outline of solution
Mayor Walling – Importance of solution to Flint
Dan Wyant – School testing results, overview of steps on transition from Flint River to DWSD
Nick Lyon – DHHS involvement
Dr. Eden Wells – Testing of water going forward, use of filters approved by NSF
Ridgway White – Importance of collaboration/commitment to Flint

Talking points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
    - The Michigan Department of Health and Human Services and the Department of Environmental Quality today also is committing an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

- Today's announcement in an important step as we move forward together.
    - But it is not our first step, nor will it be our last.

        - This announcement builds on work we've already set in place.
            - That includes $4.2 million in state grants and loan restructuring to help identify and fix infrastructure problems.
            - State agencies have been working closely with Flint leaders and the community for more than a year.

- There will be more to do.
    - Flint has an aging water infrastructure system with challenges that we – together – will continue to address.

- We will continue to test Flint schools for lead levels in drinking water.
    - Schools across the state might also have questions.
    - The Department of Environmental Quality will work with districts across the state to provide testing.
        - Districts can send water samples and paperwork and the nominal charge. (It costs $26 per sample).

- The steps outlined in the comprehensive action plan are still in effect.

FAQs for Media Q&As

Switch to Great Lakes Water Authority

What finally pushed the state to this decision?

This was the City's request, and the Governor supports it, based on several key factors:
In the near term, DWSD water will be easier to manage. It comes from a more stable source than the river, it is fully optimized for corrosion control, and it is clear that residents of Flint have more confidence in this water source.

Will this solve Flint's water crisis?

In combination with the other short term, intermediate term and long-term steps outlined last week, this move represents a big step forward. Flint still has serious system maintenance challenges it must address.

If you're saying residents will still have lead because of their plumbing, does that mean every other city in this state has a lead problem?

Many areas of the state have lead in their infrastructure mix.

Where's the state getting the money to fund this?

We have submitted a formal request to lawmakers via the appropriations process.

Where's the city getting the money to fund this?

The city is contributing all it can, and is getting assistance for its match from the Mott Foundation.

How long will the switch take?

The switch will be completed by the City and Great lakes Water Authority, but our understanding is that it can be accomplished in the very near term once the arrangements are complete.

How long will it take before Detroit's corrosion controls provide protection for Flint?

It will take some time for the corrosion control additives to build on pipe walls throughout the system. Estimates vary. The state can assure we will commence monitoring of the system early 2016 and report results as we get them to keep the community updated.

Why do residents still need to use filters and bottled water?

The filters and bottled water are responsible precautions for any resident concerned about lead exposure.

Do the filters actually work? We've been hearing they don't protect for lead.

Yes, the filters work. They are all certified for lead removal by the National Sanitation Foundation.

The filters are only good for 100 gallons. What happens when they are used up?

They will need to be replaced. And residents can get a new filter.

What about restaurants?

What's going to be done about lead service lines?

Long term, this is the only permanent solution to lead exposure. The state has committed to helping the city accomplish this goal long term.

Do you wish you'd made this switch sooner?
We support the City's decision. We can't look backward. We feel the state has responded quickly and effectively as information has surfaced, been investigated and verified. While the City of Flint is, right now, in compliance with the federal Lead and
Copper Rule, we recognize there is a disparity between surveillance testing and other testing happening in the community that we need to better understand and we are working on developing our knowledge.

Schools testing

What do these results say?
The results say we need to further investigate Flint schools and help the schools find clearer causes for some the results we got.

Any theories about what's going on?
It is possible there are specific points in the plumbing that have lead components which need to be replaced, but we can't say anything definitively until we perform an investigation at each school.

Do the schools have lead service lines? If not, why are they getting such high results?
The schools we tested initially do not have lead service lines. There are a few possible reasons why lead is being detected at specific points in the buildings and not others. When we know things definitively, we will make the information public.

How long do the schools have to stay on bottled water? Just until the switch to Detroit, or longer term?
We are encouraging the schools to continue their current protective measures as a precaution until we can get into the buildings and get more answers.

Why did you only test 13 schools?
That was what the Flint Public Schools requested.

What happens to other schools?
We will test all the schools in Flint if they request it.

What about the schools that can't afford to update their entire plumbing systems?
This is why we are having plumbing assessments completed. There is no way to know yet what each building will require.

How confident are you in your testing? You've got results all over the map.
We are confident that our testing meets the requirements for the federal Lead and Copper Rule, which is surveillance monitoring. The bigger question is whether surveillance monitoring meets the public health protection standards that Lead Exposure Testing methods do. The EPA is working on that question now, and we are engaged in that dialogue.

What do you mean by "health exposure testing"? What are you doing next?

The 90th percentile of your results is still below 15 ppb. Does that make you more or less confident in your testing and in your protocols?

It makes us confident that the testing protocol delivers consistent results. But again, it does raise questions about whether this testing method shows what people think it does or what they really want to know, which is actual lead exposure from lead plumbing in a home.

Any idea how long kids have been exposed to lead? Was it before the move to the Flint River?
That is possible. We don't know.

How does the state bring this new information into the broader picture of kids' lead exposure across the state?

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray Governor's Office: 517-335-6397 Brad Wurfel, 517-284-6713 Department of Environmental Quality Jennifer Eisner, 517-230-9804 Department of Health and Human Services	Thursday, Oct. 8, 2015

Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint

State, Mott Foundation and city form partnership to fund switch

FLINT, Mich. – Flint families and children will be better protected by reconnecting with the Great Lakes Water Authority as the source of the city's drinking water, Gov. Rick Snyder said.

Snyder said Thursday that he will request the state Legislature to provide half, or $6 million, of the $12 million needed to reconnect with the authority. The Flint city government will provide $2 million and the Charles Stewart Mott Foundation will donate $4 million.

"All Flint residents need clean, safe drinking water," Snyder said. "The technical experts helping the city on its water advisory all agree this move back to the Great Lakes Water Authority provides the best public health protection for children and families. This effort today is the result of people coming together to solve a problem. I appreciate Detroit's willingness to reconnect with Flint, the Mott Foundation's generous donation, and the dedication of all parties to come together to protect Flint families and children."

The Michigan Departments of Environmental Quality and Health and Human Services today also committed an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

Flint city leaders requested the state's help to fund the reconnection after a Wednesday meeting of Flint's Technical Advisory Committee. Flint's move to the Great Lakes Water Authority is expected to cost about $1.3 million per month until the Karegnondi Water Authority is completed next summer.

INSERT MAYOR QUOTE HERE

The move to Detroit water, which is drawn from Lake Huron, carries many public health benefits. As large bodies of water, the Great Lakes are naturally prone to fewer problems from large rain events and other runoff issues that can be present in shallower rivers. Additionally, the Great Lakes Water Authority has already fully optimized its corrosion control, using phosphates to help coat the insides of pipes and prevent lead from leaching into the water.

However, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control. Additionally, some households in the city could experience lead in their drinking water until all lead pipes and plumbing are replaced.

INSERT MOTT FOUNDATION QUOTE HERE

To best protect public health, Snyder said state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure.

Free filters are available for current MDHHS clients at the 125 E. Union St. or 4809 Clio Road MDHHS office locations. For residents who are not currently enrolled in MDHHS assistance programs, free filters are available at the Genesee County Community Action Resource Department offices at 2727 Lippincott and 601 North Saginaw in Flint. Staff will be at all four locations from 9 a.m. to 4 p.m., Monday through Friday, to distribute filters and assist residents who have questions about proper installation. At the Lippincott location only, extended hours will be offered this weekend, including until 7 p.m. on Thursday and Friday and from 10 a.m. to 2 p.m. on Saturday.

Other good practices for residents concerned about lead include turning on the cold water tap and running the water until it's as cold as it will go. Additionally, only use cold water for cooking, drinking and especially mixing baby formula.

School test results released; more investigation planned

The state today also released the first results from its lead screening program in schools and homes. Of 37 total samples taken at 13 buildings, four samples spread over three buildings exceeded the federal action level of 15 parts per billion.

However, this sampling provides only an initial screen, and the state is committing to further testing water and inspecting plumbing at these schools. Until testing is complete, schools are advised to continue using bottled water and filtration as a precaution to protect children.

In addition, free testing is still available for any other Flint school, including daycares and Head Starts. Free testing is also available for any Flint resident.

Additional information, including more detailed lead screening results, is available at www.michigan.gov/flintwater.

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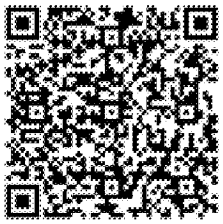
From: Hollins, Harvey (GOV)
Sent: Thursday, March 05, 2015 9:44 AM
To: Wurfel, Brad (DEQ)
Cc: Wyant, Dan (DEQ)
Subject: Items

Brad,
Per Monday's conference call, when can we expect to receive DEQ's review of the home filter units. Also, of the total notices/citations issued by DEQ to communities regarding drinking water around the state, what percent was issued to Flint in 2013 and 2104.

Best,

Harvey Hollins, Director
Office of Urban Initiatives

State of Michigan
Governor Rick Snyder
Executive Office
☎:: (313) 456-4994 (Office) | PPI (Cell)
✉:: 3044 W. Grand Blvd | Suite 14-650 | Detroit, MI 48202



From: Wurfel, Brad (DEQ)
Sent: Wednesday, March 18, 2015 8:10 AM
To: Hollins, Harvey (GOV)
Cc: Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Clayton, Stacie (GOV);Sygo, Jim (DEQ)
Subject: Re: City of Flint Information - Consultants

Harvey, Steve Busch called them yesterday but the consultant said he'd already talked with you.
Regardless, sounds like it was a good conversation in that it brings the city appropriately into the mix on this idea.
Let us know what else you need. Thanks!
b

Sent from my iPhone

On Mar 17, 2015, at 4:47 PM, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov> wrote:

> Thank you. Has anyone from DEQ talked with them? Do they know I will be calling?
>
> Best,
> Harvey
>
> On Mar 17, 2015, at 9:54 AM, Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov> wrote:
>
> > Good Morning Harvey,
> >
> > The consultants listed below are working with Flint and are in the best position to recommend a water filter system. The locals should be asked to use their consultants to recommend a technology.
> >
> > Warren Green with Lockwood, Andrews & Newman, Inc.
> > 630-918-2494
> >
> > and
> >
> > Marvin Gnagy with Veolia North America
> > 419-450-2931
> >
> > Thank you.
> >
> > Dan Wyant
> > Director

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Datema, Maggie (DEQ)
Sent: Thursday, April 23, 2015 5:00 PM
To: Wurfel, Brad (DEQ)
Cc: Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ)
Subject: Re: Caller: Jordon of Congressman Kildee 202-2225-0989

If everyone is ok with this, I am suggesting Brad handle this call. I apologize but I will just be gathering info to go ask Brad and then relay the info. Probably best to just take out the middle man.

Thanks
Maggie

On Apr 23, 2015, at 4:54 PM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:

> I'm guessing probably me.
>
> ---
>
> **From:** Datema, Maggie (DEQ)
> **Sent:** Thursday, April 23, 2015 4:54 PM
> **To:** Thelen, Mary Beth (DEQ)
> **Cc:** Wurfel, Brad (DEQ); Wyant, Dan (DEQ)
> **Subject:** Re: Caller: Jordon of Congressman Kildee 202-2225-0989
>
> I am happy to call back but I am not up to speed on any of the Flint Drinking water issues. Who is our exe office lead on this issue?
>
> On Apr 23, 2015, at 4:47 PM, Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov> wrote:
>
> > Maggie,
> >
> > Jordan of Congressman Kildee's office called regarding another followup question RE: City of Flint. Can you please give him a call at 202-225-0989?
> >
> > Thank you.
> >
> > Mary Beth
> >
> > Mary Beth Thelen
> > Management Assistant to Director Dan Wyant
> > Department of Environmental Quality
> > Constitution Hall, 6th Floor South
> > Phone: 517-284-6712 or 284-6700 (new numbers)
> > Fax: 517-241-7401
> > Thelenm2@michigan.gov

From: Epkey, Amy (DEQ)
Sent: Friday, April 24, 2015 8:37 AM
To: Wurfel, Brad (DEQ);Datema, Maggie (DEQ)
Cc: Wyant, Dan (DEQ)
Subject: RE: Kildee's office... flint follow up

Brad,

There is no SRF surplus. In 2014, we provided $105 million in loans to 24 communities. Loan forgiveness on green infrastructure is aligned with federal criteria and then provided based on those who apply and meet the criteria. Please let me know if you need anything else.

Thanks,
Amy

From: Wurfel, Brad (DEQ)
Sent: Thursday, April 23, 2015 5:21 PM
To: Datema, Maggie (DEQ)
Cc: Wyant, Dan (DEQ); Epkey, Amy (DEQ)
Subject: Kildee's office... flint follow up

So, apparently Wyant and Kildee talked today.

Jordan had two questions, both follow up to the conversation. One was related to a review of our budget, which said Michigan was going to give loan forgiveness on green infrastructure projects. He wanted to know why we didn't put all of our loan forgiveness effort into distressed communities instead.

The other question was, what's our SRF surplus this year? He's heard that many communities are going to the private sector for funding instead of the SRF.

We discussed, broadly, the challenge of helping Flint. The infrastructure problem. The scope of the challenge. And how we are committed to continuing finding ways to help the city, even if this option turns out not to be the course specifically.

Told him I'd have answers tomorrow. These were not necessarily Flint questions … but its foreseeable they'll be part of the ongoing Flint conversation. Amy, I think I need your expertise on this one.

b

Jordan.dickinson@mail.house.gov

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

From: Feighner, Bryce (DEQ)
Sent: Friday, June 12, 2015 7:51 PM
To: Thelen, Mary Beth (DEQ)
Cc: DEQ-EXE-800 Meeting Attendees;DEQ-EXE-MGMT-TEAM;DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Re: Director's 8:00 Exec Team List for Monday, June 15, 2015

Yep. I knew that.

Sent from my iPhone

On Jun 12, 2015, at 7:46 PM, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov> wrote:

> Liane and Bryce,
>
> When I looked at the chart again, I realized it was Liane's turn to attend the 8:00 on Monday morning and Bryce is on for June 22. So if you get this note over the weekend, Liane, please attend the 8:00.
>
> Sorry for the mix-up.
>
> Mary Beth
>
> Mary Beth Thelen
> Management Assistant to Director Dan Wyant
> Department of Environmental Quality
> Constitution Hall, 6th Floor South
> Phone: 517-284-6712 or 284-6700 (new numbers)
> Fax: 517-241-7401
> Thelenm2@michigan.gov
>
> ---
>
> **From:** Thelen, Mary Beth (DEQ)
> **Sent:** Friday, June 12, 2015 11:31 AM
> **To:** DEQ-EXE-800 Meeting Attendees
> **Cc:** DEQ-EXE-MGMT-TEAM; DEQ-EXE-MGMT-TEAM-Secretaries
> **Subject:** Director's 8:00 Exec Team List for Monday, June 15, 2015
>
> Dear Executive Team attending the 8:00 Monday morning meeting:
>
> Below are the Director's items for the 8:00 Executive Team meeting on Monday, June 15, 2015. Bryce, you are scheduled to attend the 8:00 to give a short update on OWMRP.
>
> The Director may also bring up some of these items at the 8:30 SMT meeting as well. I will be sending out the SMT agenda and documents this afternoon (for Leigh who is out today). Hal Fitch is scheduled to give an update on OOGM issues at the 8:30 SMT meeting.
>
> Executive

- Water Strategy
- Michigan Petroleum Pipeline Task Force
- Legislative Hearings
- Employee Survey Results
- Organizational Excellence
- Quebec on June 12-14
- Director's Advisory Council for June
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District
- Enforcement Policy

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments

- 201 Criteria Workgroup

Thanks.

Karen Shaler for
Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, July 02, 2015 3:43 PM
To: DEQ-EXE-800 Meeting Attendees;Pattwell, Michael (DEQ);Mike Pattwell (MPattwell@ClarkHill.com);McCauley, Sara (GOV);Fiedler, Lynn (DEQ)
Cc: Barr, Carrie (DEQ);Wilcox, Candra (DEQ);Feuerstein, Heather (DEQ);Copen, Leigh (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Vaughn, Kari (DEQ)
Subject: Director's 8:00 Exec Team List for Monday, July 6, 2015

Dear Executive Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Team meeting on Monday, July 6, 2015. Lynn, you are scheduled to attend the 8:00 to give a short update on AQD issues.

Jim Sygo, if you would like to call in (no pressure to do so), please call the main line at 517-284-6700 and we will transfer you to the Director's Conference Room.

Executive
- Water Strategy
- Michigan Petroleum Pipeline Task Force
- Legislative Meetings
- Employee Survey Results – Action Plan
- Organizational Excellence
- Follow-ups on Quebec on June 12-14
- Asian Carp
- Director's Advisory Council for August
- Budget
- District Visits –July 20, Saginaw Bay and UP in July
- Enforcement Policy

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water

- SAW Grants

OWMRP
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, July 10, 2015 11:36 AM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators;Butler, Sonya (DEQ)
Cc: DEQ-EXE-MGMT-TEAM-Secretaries;Olszewski, Rosemarie (DEQ)
Subject: SMT Agenda for July 13, 2015 and FW: Director's 8:00 Exec Team List for Monday, July 13
Attachments: SMT Agenda 13Jul2015.docx

Dear SMT and District Coordinators:

Attached is the agenda for the 8:30 SMT meeting. Also, below are items that the Director may bring up.

District Coordinators: We will send you ODWMA's PowerPoint early Monday morning as it will be available at that time.

Have a great summer weekend!

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, July 10, 2015 11:26 AM
To: DEQ-EXE-800 Meeting Attendees; Schinderle, Jack (DEQ)
Cc: Vaughn, Kari (DEQ); Olszewski, Rosemarie (DEQ); Shaler, Karen (DEQ); Flores, Benita (DEQ); Feuerstein, Heather (DEQ); Copen, Leigh (DEQ); Wilcox, Candra (DEQ)
Subject: Director's 8:00 Exec Team List for Monday, July 13

Dear Executive Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Team meeting on Monday, July 13, 2015. Jack, you are scheduled to attend the 8:00 to give a short update on OEA issues.

Jim Sygo, if you would like to call in (no pressure to do so), please call the main line at 517-284-6700 and we will transfer you to the Director's Conference Room or you may call the conference room directly at 284-6725.

Executive

- Water Strategy
- Michigan Petroleum Pipeline Task Force
- Employee Survey Results – Action Plan
- Organizational Excellence
- Follow-ups on Quebec on June 12-14
- Asian Carp

- Director's Advisory Council for August
- Budget
- District Visits –July 20, Saginaw Bay and UP in July 28-30
- Enforcement Policy

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality

Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

This Document is a Non-Responsive Attachment.

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, July 17, 2015 2:08 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Erickson, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Flores, Benita (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Shaler, Karen (DEQ);Slater, Donna (DNR);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of July 13, 2015
Attachments: E-Clips 071315.pdf

DEQ e-clips

Week of July 13, 2015

Detroit Free Press: Something fishy about the Grayling Hatchery permit
http://www.freep.com/story/sports/outdoors/2015/07/11/grayling-hatchery-au-sable-michigan-fishing/30015687/

Pipeline is called an aging, oily threat to Great Lakes
http://www.freep.com/story/news/local/michigan/2015/07/15/task-force-makes-recommendations-line-pipeline-straits-mackinac/30152787/

Mackinac Straits Pipelines need action
http://www.freep.com/story/opinion/contributors/2015/07/15/pipeline-recommendations-must-implemented-fast-help-avoid-devastating-spill-straits/30155939/

Time to protect Great Lakes from oil spill is now
http://www.freep.com/story/opinion/editorials/2015/07/16/great-lakes-oil/30269335/

Detroit News: Schuette: Days numbered for Mackinac straits' pipelines
http://www.detroitnews.com/story/news/politics/2015/07/14/schuette-pipelines-straits-mackinac/30128275/

Editorial: Pipeline plan should keep Great Lakes safer
http://www.detroitnews.com/story/opinion/editorials/2015/07/15/edit-pipeline-plan-great-lakes/30198479/

State agency seeks to cut regulated air chemicals
http://www.detroitnews.com/story/news/politics/2015/07/16/state-agency-seeks-cut-regulated-air-chemicals/30246145/

MLive: Report calls for heavy crude oil ban in Straits of Mackinac pipeline
http://blog.mlive.com/grpress/news_impact/print.html?entry=/2015/07/report_calls_for_heavy_crude_o.html

Enbridge slammed for information gaps in Straits oil pipeline report
http://blog.mlive.com/grpress/news_impact/print.html?entry=/2015/07/enbridge_slammed_for_informati.html

Michigan Radio: Leaked internal memo shows federal regulator's concerns about lead in Flint's water
http://michiganradio.org/post/leaked-internal-memo-shows-federal-regulator-s-concerns-about-lead-flint-s-water

Straight talk about the Straits pipeline? Not so much
http://michiganradio.org/post/straight-talk-about-straits-pipeline-not-so-much#stream/0

Even after the state's pipeline report, the status of Line 5 below Lake Michigan is still unknown
http://michiganradio.org/post/even-after-states-pipeline-report-status-line-5-below-lake-michigan-still-unknown

Gary Peters wants a study of health risks of pet coke
http://michiganradio.org/post/gary-peters-wants-study-health-risks-pet-coke

MyMuskegonNow: 'Lake killer' over-reaction to starry stonewort, Michigan expert says
http://www.mymuskegonow.com/news/lake-killer-over-reaction-to-starry-stonewort-michigan-expert-says-b99539253z1-315857551.html

NWF.org: NWF Heralds New Michigan Report as Major Step Forward to Protect Communities, Wildlife, Great Lakes from Risky Oil Pipelines
http://www.nwf.org/News-and-Magazines/Media-Center/News-by-Topic/Wildlife/2015/07-14-15-NWF-Heralds-New-Michigan-Report-as-Major-Step-Forward.aspx

Petoskey News: Pipeline task force report calls for ban on heavy crude in Straits pipeline, safety oversight
http://www.petoskeynews.com/featured-pnr/pipeline-task-force-report-calls-for-ban-on-heavy-crude/article_853e9c43-97a4-5724-8566-928d53140f37.html?mode=print

The Observer: Environmental groups want pipeline crossing at Mackinac closed
http://www.theobserver.ca/2015/07/15/environmental-groups-want-pipeline-crossing-at-mackinac-closed?utm_source=addThis&utm_medium=addthis_button_printfriendly&utm_campaign=Report+calls+for+action+on+oil+pipeline+safety+|+Sarnia+Observer

The Voice: Marysville wins $241,000 grant for pump station at Cuttle Creek
http://www.voicenews.com/articles/2015/07/17/news/doc55a80b4ca5759796582155.prt

UPI: Michigan calls for tar sands ban
http://www.upi.com/Business_News/Energy-Resources/2015/07/15/Michigan-calls-for-tar-sands-ban/7931436962256/

WILX.com: Water Safety: Parasites in Michigan's Lakes and Rivers
http://www.wilx.com/home/headlines/Water-Safety-Parasites-in-Michigans-Lakes-and-Rivers-313401511.html

WLNS.com: Skubick: Time ticking for pipeline along straights of Mackinac
http://wlns.com/2015/07/14/skubick-time-ticking-for-pipeline-along-straights-of-mackinac/

Wood TV8: AG: Ban heavy crude oil from Straits of Mackinac pipeline
http://woodtv.com/2015/07/14/ag-ban-heavy-crude-oil-from-straits-of-mackinac-pipeline/

Yahoo.com: Michigan: Ban heavy oil from Straits of Mackinac pipeline

http://news.yahoo.com/michigan-ban-heavy-oil-straits-mackinac-pipeline-171153616.html;_ylt=AwrC1CmGS6VVigkAVgDQtDMD;_ylu=X3oDMTByOHZyb21tBGNvbG8DYmYxBHBvcwMxBHZ0aWQDBHNlYwNzcg--

9&10 News: Southwest Michigan site removed from EPA's Superfund list
http://www.9and10news.com/story/29565301/southwest-michigan-site-removed-from-epas-superfund-list

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of July 13, 2015

Detroit Free Press: Something fishy about the Grayling Hatchery permit
http://www.freep.com/story/sports/outdoors/2015/07/11/grayling-hatchery-au-sable-michigan-fishing/30015687/

Pipeline is called an aging, oily threat to Great Lakes
http://www.freep.com/story/news/local/michigan/2015/07/15/task-force-makes-recommendations-line-pipeline-straits-mackinac/30152787/

Mackinac Straits Pipelines need action
http://www.freep.com/story/opinion/contributors/2015/07/15/pipeline-recommendations-must-implemented-fast-help-avoid-devastating-spill-straits/30155939/

Time to protect Great Lakes from oil spill is now
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Detroit News: Schuette: Days numbered for Mackinac straits' pipelines
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Editorial: Pipeline plan should keep Great Lakes safer
http://www.detroitnews.com/story/opinion/editorials/2015/07/15/edit-pipeline-plan-great-lakes/30198479/

State agency seeks to cut regulated air chemicals
http://www.detroitnews.com/story/news/politics/2015/07/16/state-agency-seeks-cut-regulated-air-chemicals/30246145/

MLive: Report calls for heavy crude oil ban in Straits of Mackinac pipeline
http://blog.mlive.com/grpress/news_impact/print.html?entry=/2015/07/report_calls_for_heavy_crude_o.html

Enbridge slammed for information gaps in Straits oil pipeline report
http://blog.mlive.com/grpress/news_impact/print.html?entry=/2015/07/enbridge_slammed_for_informati.html

Michigan Radio: Leaked internal memo shows federal regulator's concerns about lead in Flint's water
http://michiganradio.org/post/leaked-internal-memo-shows-federal-regulator-s-concerns-about-lead-flint-s-water

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Gary Peters wants a study of health risks of pet coke
http://michiganradio.org/post/gary-peters-wants-study-health-risks-pet-coke

MyMuskegonNow: 'Lake killer' over-reaction to starry stonewort, Michigan expert says
http://www.mymuskegonow.com/news/lake-killer-over-reaction-to-starry-stonewort-michigan-expert-says-b99539253z1-315857551.html

NWF.org: NWF Heralds New Michigan Report as Major Step Forward to Protect Communities, Wildlife, Great Lakes from Risky Oil Pipelines
http://www.nwf.org/News-and-Magazines/Media-Center/News-by-Topic/Wildlife/2015/07-14-15-NWF-Heralds-New-Michigan-Report-as-Major-Step-Forward.aspx

Petoskey News: Pipeline task force report calls for ban on heavy crude in Straits pipeline, safety oversight
http://www.petoskeynews.com/featured-pnr/pipeline-task-force-report-calls-for-ban-on-heavy-crude/article_853e9c43-97a4-5724-8566-928d53140f37.html?mode=print

The Observer: Environmental groups want pipeline crossing at Mackinac closed
http://www.theobserver.ca/2015/07/15/environmental-groups-want-pipeline-crossing-at-mackinac-closed?utm_source=addThis&utm_medium=addthis_button_printfriendly&utm_campaign=Report+calls+for+action+on+oil+pipeline+safety+|+Sarnia+Observer

The Voice: Marysville wins $241,000 grant for pump station at Cuttle Creek
http://www.voicenews.com/articles/2015/07/17/news/doc55a80b4ca5759796582155.prt

UPI: Michigan calls for tar sands ban
http://www.upi.com/Business_News/Energy-Resources/2015/07/15/Michigan-calls-for-tar-sands-ban/7931436962256/

WILX.com: Water Safety: Parasites in Michigan's Lakes and Rivers
http://www.wilx.com/home/headlines/Water-Safety-Parasites-in-Michigans-Lakes-and-Rivers-313401511.html

WLNS.com: Skubick: Time ticking for pipeline along straights of Mackinac
http://wlns.com/2015/07/14/skubick-time-ticking-for-pipeline-along-straights-of-mackinac/

Wood TV8: AG: Ban heavy crude oil from Straits of Mackinac pipeline
http://woodtv.com/2015/07/14/ag-ban-heavy-crude-oil-from-straits-of-mackinac-pipeline/

Yahoo.com: Michigan: Ban heavy oil from Straits of Mackinac pipeline
http://news.yahoo.com/michigan-ban-heavy-oil-straits-mackinac-pipeline-171153616.html;_ylt=AwrC1CmGS6VVigkAVgDQtDMD;_ylu=X3oDMTByOHZyb21tBGNvbG8DYmYxBHBvcwMxBHZ0aWQDBHNlYwNzcg--

9&10 News: Southwest Michigan site removed from EPA's Superfund list
http://www.9and10news.com/story/29565301/southwest-michigan-site-removed-from-epas-superfund-list

From: Busch, Stephen (DEQ)
Sent: Friday, July 24, 2015 12:14 PM
To: Wurfel, Brad (DEQ);Prysby, Mike (DEQ)
Cc: Shekter Smith, Liane (DEQ);Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: RE: Need upate on lead / copper tests for Flint

Brad,

Mike and I will come up to your office at 1:15.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, July 24, 2015 12:09 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Shekter Smith, Liane (DEQ); Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Subject: Need upate on lead / copper tests for Flint

Guys, the Flint Ministers met with the Governor's office again last week. They also brought along some folks from the community – a college prof and a GM engineer – who imparted that 80 water tests in Flint have shown high lead levels.

Could use an upate on the January / june testing results, as well as recap of the December testing numbers, and any overview you can offer to edify this conversation.
Call me or email today if possible. Thanks!
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

From: Thelen, Mary Beth (DEQ)
Sent: Friday, July 31, 2015 2:58 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Epkey, Amy (DEQ);Anderson, Madhu (DEQ);Sygo, Jim (DEQ);Pallone, Maggie (DEQ);Thelen, Mary Beth (DEQ)
Cc: Feuerstein, Heather (DEQ);Copen, Leigh (DEQ);Shaler, Karen (DEQ);Wilcox, Candra (DEQ)
Subject: Director's 8:00 Exec Team List for Monday, August 3

I decided to send this out for Monday a.m. It will help us plan the agenda.

I'll make copies.

Thanks.
==========

Dear Executive Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Team meeting on Monday, August 3, 2015.

Executive
- Water Strategy
- Michigan Petroleum Pipeline Task Force
- Employee Survey Results – Action Plan
- Organizational Excellence
- Follow-ups on Quebec on June 12-14
- Asian Carp
- Director's Advisory Council for August
- Budget
- District Visits – Cadillac/Gaylord District on August 6 and Kalamazoo August 18
- Enforcement Policy
- ECOS Meeting late August
- MiStat Meeting with the Governor – August 11
- Meeting with the Governor on Recycling – September 22
- Meeting with the Governor on Enbridge – September 23
- Directors' Schedule – Office August 10, 11; Annual Leave August 12, 13, 14, 17; Kalamazoo August 18; Annual Leave August 19-21; Maybe UP with Governor on August 20

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA

- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Shekter Smith, Liane (DEQ)
Sent: Friday, July 31, 2015 4:16 PM
To: Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Busch, Stephen (DEQ)
Cc: Karen Tommasulo
Subject: RE: Updated Memo on Water Coalition Questions - July 29

FYI –

We did receive a courtesy heads up from DHHS staff.

From: Wurfel, Brad (DEQ)
Sent: Friday, July 31, 2015 2:32 PM
To: Wyant, Dan (DEQ); Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ)
Cc: Karen Tommasulo; Wurfel, Sara (GOV)
Subject: Fwd: Updated Memo on Water Coalition Questions - July 29

Interesting.

Sent from my iPhone

Begin forwarded message:

> **From:** "Lyon, Nick (DCH)" <LyonN2@michigan.gov>
> **Date:** July 31, 2015 at 10:56:42 AM EDT
> **To:** "Muchmore, Dennis (GOV)" <muchmored@michigan.gov>, "Workman, Wayne (TREASURY)" <WorkmanW@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Clement, Elizabeth (GOV)" <clemente@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>
> **Cc:** "Saxton, Thomas (Treasury)" <SaxtonT@michigan.gov>, "Wisniewski, Wendy (GOV)" <wisniewskiw@michigan.gov>, "Grijalva, Nancy (DCH)" <GrijalvaN@michigan.gov>
> **Subject: Re: Updated Memo on Water Coalition Questions - July 29**
>
> Our Public Health staff followed up a bit more on the lead question. Below is their email update to me.
>
> From: Grijalva, Nancy (DCH)
> Sent: Wednesday, July 29, 2015 11:23 AM
> To: Lyon, Nick (DCH)
> Subject: FW: Director's Office Assignment -- Flint - need update asap
>
> FYI.....

-----Original Message-----
From: Peeler, Nancy (DCH)
Sent: Tuesday, July 28, 2015 2:57 PM
To: Anderson, Paula (DCH); Miller, Corinne (DCH); Travis, Rashmi (DCH); Moran, Susan (DCH); Grijalva, Nancy (DCH); Fink, Brenda (DCH)
Cc: Priem, Wesley F. (DCH); Dykema, Linda D. (DCH); Bouters, Janese (DCH); Barr, Jacqui (DCH)

Subject: RE: Director's Office Assignment -- Flint - need update asap

I apologize for the delay in responding more specifically to this assignment, it took some time to review our Childhood Lead Poisoning Prevention program data to see if it might contribute to the understanding of the situation in Flint with their water supply. Here is what we found:

We looked at lead testing results for May 2014-April 2015, which is the 12 month time frame just after Flint started drawing their water from the river (water source changed in April 2014).

We compared lead testing rates and lead testing results to the same time frame for the previous 3 years, to see if there were any patterns that suggested that there were increased rates of lead poisoning after the water supply was switched. Per the attached charts –

- Lead testing rates remained about the same from year to year (chart on the right).
- There was a spike in elevated blood lead tests from July-September 2014 (chart on the left, gold line).
- However that pattern was not terribly different from what we saw in the previous three years, especially in 2011-2012 (we are working with our Epidemiologist to statistically verify any significant differences).
- We commonly see a 'seasonal effect' with lead, related to people opening and closing windows more often in the summer, which disturbs old deteriorating paint on the windows, sills and sashes. Window fans frequently blow and spread the lead dust from the deteriorating paint to other parts of the room/house. We suspect that the summer data spike may be related to this effect.
- If the home water supply lines and/or river water were contributing to elevated blood lead tests, we expected that the increased rates would extend beyond the summer, but they drop quite a bit from September to October, stayed low over the winter, and are just starting to tail up again in the spring of 2015.

So upon review, we don't believe our data demonstrates an increase in lead poisoning rates that might be attributable to the change in water source for Flint. We recognize that lead

exposure via the water is only a small piece of what may be happening for families in Flint, however, we hope the information is helpful.

Nancy Peeler

From: Muchmore, Dennis (GOV)
Sent: Wednesday, July 29, 2015 9:02 AM
To: Workman, Wayne (TREASURY); Wurfel, Brad (DEQ); Lyon, Nick (DCH); Clement, Elizabeth (GOV); Hollins, Harvey (GOV)
Cc: Saxton, Thomas (Treasury); Wisniewski, Wendy (GOV)
Subject: RE: Updated Memo on Water Coalition Questions - July 29

I think this information is very helpful. It will not answer the main question about the quality of the water (DEQ is working on that through Brad I believe), and the color and smell of the present water, but it does get us to the answers to the less subjective issues. Frankly, the only way the issues will be totally resolved is when the KWA comes on line and the water is perceived to be cleaner and healthier.
I am somewhat surprised that the leadership in Flint has not responded better to the community questions, which don't seem unreasonable at all. Seems like Harvey has a better network into some of the neighborhoods than the city does. The KWA PR department definitely needs to do some outreach or they're headed down the same road as DWSD. Do you know if they go out on a regular basis to the community and talk about the rates, costs, etc.?

From: Workman, Wayne (TREASURY)
Sent: Wednesday, July 29, 2015 8:36 AM
To: Muchmore, Dennis (GOV); Wurfel, Brad (DEQ); Lyon, Nick (DCH); Clement, Elizabeth (GOV)
Cc: Saxton, Thomas (Treasury); Wisniewski, Wendy (GOV)
Subject: FW: Updated Memo on Water Coalition Questions - July 29
Importance: High

All, Attached is a memo and water rate summary answering several of the questions raised by the Flint pastors. Please let me know if you have any questions. Wayne

Wayne L. Workman
Deputy State Treasurer
Michigan Department of Treasury

From: Cline, Richard (Treasury)
Sent: Wednesday, July 29, 2015 8:21 AM
To: Workman, Wayne (TREASURY)
Cc: Dempkowski, Angela (Treasury); Byrne, Randall (Treasury)
Subject: Updated Memo on Water Coalition Questions - July 29
Importance: High

Wayne,

Attached is the water rate table you asked for and I have updated the memo to reference this as an attachment.

If you need anything else, please let me know.

Note that Rob, Randy and I will be in Benton Harbor for a portion of today conducting their annual RTAB evaluation.

Eric Cline | Department Manager
State of Michigan | Michigan Department of Treasury | Office of Fiscal Responsibility
430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
Lansing Office (517) 335-2078 | Cell Phone PPI | Traverse City Office (231) 922-5228
E-mail clinerl@michigan.gov

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From: Thelen, Mary Beth (DEQ)
Sent: Friday, August 14, 2015 3:45 PM
To: Anderson, Madhu (DEQ);Pallone, Maggie (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ);Thelen, Mary Beth (DEQ);Epkey, Amy (DEQ)
Cc: Wilcox, Candra (DEQ);Copen, Leigh (DEQ);Shaler, Karen (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ)
Subject: FW: Director's 8:00 Exec Leadership Team List for Monday, August 17 (Also additional Items from Amy Epkey)

Dear Executive Leadership Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Leadership Team meeting on Monday, August 17, 2015.
Please note:
Amy Epkey has asked for some time to discuss several items and I have added that under Administration.
Madhu Anderson has asked for some time on the agenda and I added those items under Executive.

Have a great weekend

Thanks.

Executive

- Pollution Control Exemptions (update/next steps) – Madhu Anderson
- Recycle by Design project – Madhu Anderson
- Followups from the MiStat Meeting with the Governor – August 11
- Executive Division Retreat – September 14 and 15, 2015
- Meeting with the Governor on Recycling – September 22
- Meeting with the Governor on Enbridge – September 23
- Directors' Schedule –Office August 17; Kalamazoo August 18; Annual Leave **Or** Office August 19-21; Maybe UP with Governor on August 20.
- ECOS Meeting late August
- Michigan Petroleum Pipeline Task Force – Implementation of Recommendations
- Employee Survey Results – Action Plan
- Organizational Excellence
- Follow-ups on Quebec on June 12-14
- Asian Carp
- Director's Advisory Council for late August
- Budget
- District Visits – Kalamazoo August 18
- Enforcement Policy

Admin (Amy Epkey)
- Underground Storage Tank Authority
- Michigan Strategic Water Fund

- Administration Division In-Service Suggestions
- SMT Administration Agenda Items
- Great Lakes Conference Room
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
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- Ontario Power Generation and MHSA

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- Water Use
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- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Olszewski, Rosemarie (DEQ)
Sent: Thursday, September 03, 2015 1:45 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of August 31, 2015
Attachments: E-Clips 083115.pdf

DEQ e-clips

Week of August 31, 2015

Detroit Free Press: State offers online environmental permits
http://www.freep.com/story/news/local/michigan/2015/09/01/online-environmental-permits/71503220/

Detroit News: Michigan to develop its own greenhouse gas plan
http://www.detroitnews.com/story/news/politics/2015/09/01/michigan-carbon-plan/71506756/

Our Editorial: Keep landfills from making a stink
http://www.detroitnews.com/story/opinion/editorials/2015/08/31/edit-michigan-landfills/71323956/

Great Lakes Echo: The dune is moving! The dune is moving!
http://greatlakesecho.org/2015/09/01/the-dune-is-moving-the-dune-is-moving/#

MLive: Lead leaches into 'very corrosive' Flint drinking water, researchers say
http://blog.mlive.com/newsnow_impact/print.html?entry=/2015/09/new_testing_shows_flint_water.html

Rail car smoldering for 2 weeks raises stink about township leader's business
http://blog.mlive.com/grpress/news_impact/print.html?entry=/2015/09/smoldering_rail_car_raises_sti.html

Michigan Radio: Michigan to announce key decision on Clean Power Plan
http://michiganradio.org/post/michigan-announce-key-decision-clean-power-plan#stream/0

We're still waiting for confirmation on the health of Line 5 in the Straits of Mackinac
http://michiganradio.org/post/were-still-waiting-confirmation-health-line-5-straits-mackinac

Midland Daily News: Michigan officials say state will comply with Obama climate plan; Schuette joins lawsuit to block it
http://www.ourmidland.com/news/michigan-officials-say-state-will-comply-with-obama-climate-plan/article_4fddacda-50b9-11e5-a8e8-733e3114b485.html

The Mining Journal: Pipeline protests planned for Labor Day
http://www.miningjournal.net/page/content.detail/id/625246/Pipeline-protests-planned-for-Labor-Day.html?nav=5001

The Times Herald: State approves Belle River watershed plan
http://www.thetimesherald.com/story/news/local/2015/08/27/state-approves-belle-river-watershed-plan/32475503/

The Voice: Public invited to tour new county wetlands in Port Huron
http://voicenews.com/articles/2015/08/28/news/doc55d745c85956b733120451.prt

Rain gardens aim to improve water quality at New Baltimore beach
http://www.voicenews.com/articles/2015/09/02/news/doc55d5fa8b718d3722798740.prt

WDET: Michigan DEQ Proposing Plan to Reduce Sulfur Dioxide Emissions in Southwest Detroit
http://wdet.org/posts/2015/08/25/81310-michigan-deq-proposing-plan-to-reduce-sulfur-dioxide-emissions-in-southwest-detroit/

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of August 31, 2015

Detroit Free Press: State offers online environmental permits
http://www.freep.com/story/news/local/michigan/2015/09/01/online-environmental-permits/71503220/

Detroit News: Michigan to develop its own greenhouse gas plan
http://www.detroitnews.com/story/news/politics/2015/09/01/michigan-carbon-plan/71506756/

Our Editorial: Keep landfills from making a stink
http://www.detroitnews.com/story/opinion/editorials/2015/08/31/edit-michigan-landfills/71323956/

Great Lakes Echo: The dune is moving! The dune is moving!
http://greatlakesecho.org/2015/09/01/the-dune-is-moving-the-dune-is-moving/#

MLive: Lead leaches into 'very corrosive' Flint drinking water, researchers say
http://blog.mlive.com/newsnow_impact/print.html?entry=/2015/09/new_testing_shows_flint_water.html

Rail car smoldering for 2 weeks raises stink about township leader's business
http://blog.mlive.com/grpress/news_impact/print.html?entry=/2015/09/smoldering_rail_car_raises_sti.html

Michigan Radio: Michigan to announce key decision on Clean Power Plan
http://michiganradio.org/post/michigan-announce-key-decision-clean-power-plan#stream/0

We're still waiting for confirmation on the health of Line 5 in the Straits of Mackinac
http://michiganradio.org/post/were-still-waiting-confirmation-health-line-5-straits-mackinac

Midland Daily News: Michigan officials say state will comply with Obama climate plan; Schuette joins lawsuit to block it
http://www.ourmidland.com/news/michigan-officials-say-state-will-comply-with-obama-climate-plan/article_4fddacda-50b9-11e5-a8e8-733e3114b485.html

The Mining Journal: Pipeline protests planned for Labor Day
http://www.miningjournal.net/page/content.detail/id/625246/Pipeline-protests-planned-for-Labor-Day.html?nav=5001

The Times Herald: State approves Belle River watershed plan
http://www.thetimesherald.com/story/news/local/2015/08/27/state-approves-belle-river-watershed-plan/32475503/

The Voice: Public invited to tour new county wetlands in Port Huron
http://voicenews.com/articles/2015/08/28/news/doc55d745c85956b733120451.prt

Rain gardens aim to improve water quality at New Baltimore beach
http://www.voicenews.com/articles/2015/09/02/news/doc55d5fa8b718d3722798740.prt

WDET: Michigan DEQ Proposing Plan to Reduce Sulfur Dioxide Emissions in Southwest Detroit
http://wdet.org/posts/2015/08/25/81310-michigan-deq-proposing-plan-to-reduce-sulfur-dioxide-emissions-in-southwest-detroit/

From: Busch, Stephen (DEQ)
Sent: Thursday, September 10, 2015 7:58 AM
To: Wurfel, Brad (DEQ);Shekter Smith, Liane (DEQ);Prysby, Mike (DEQ)
Cc: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: RE: Congressman Kildee Letter on Lead in Flint Water
Attachments: Congressman Kildee Letter on Lead in Flint Water

I received a copy of Congressman Kildee's letter from Jordan as well. (attached).

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Wednesday, September 09, 2015 10:09 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Subject: Fwd: Congressman Kildee Letter on Lead in Flint Water

Liane, need your team's help. We'll need a draft response, and possibly a briefing for the director tomorrow. I'll find you in the morning. Thanks!
b

Sent from my iPhone

Begin forwarded message:

> **From:** "Dickinson, Jordan" <Jordan.Dickinson@mail.house.gov>
> **Date:** September 9, 2015 at 6:54:47 PM EDT
> **To:** "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>
> **Subject: FW: Congressman Kildee Letter on Lead in Flint Water**
>
> Hi Brad,
>
> Can you please make sure the attached letter is passed along to Director Wyant? I will forward along a physical copy in the mail.
>
> Thank you,
>
> **Jordan Dickinson**
> Legislative Assistant
> Congressman Dan Kildee (MI-05)
> 227 Cannon House Office Building
> Washington, D.C. 20515
> Phone: (202) 225-3611
> www.dankildee.house.gov

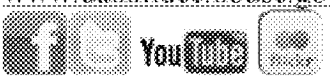
From: Dickinson, Jordan <Jordan.Dickinson@mail.house.gov>
Sent: Wednesday, September 09, 2015 7:03 PM
To: Busch, Stephen (DEQ)
Subject: Congressman Kildee Letter on Lead in Flint Water
Attachments: 2015-09-09- Congressman Kildee Letter on Lead in Flint Water.pdf

Hi Mr. Busch,

Please see the attached letter from Congressman Kildee that you were cc'd on. I will forward along a physical copy in the mail.

Thank you,

Jordan Dickinson
Legislative Assistant
Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Phone: (202) 225-3611
www.dankildee.house.gov



Sign up for Congressman Dan Kildee's e-newsletter

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

COMMITTEE ON
FINANCIAL SERVICES

SUBCOMMITTEE ON
HOUSING AND INSURANCE

SUBCOMMITTEE ON
MONETARY POLICY AND TRADE

SENIOR WHIP

DEMOCRATIC POLICY AND
COMMUNICATIONS COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515

September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV
/REPDANKILDEE
@REPDANKILDEE

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?

- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?

- What, if any, of the recommendations has the EPA followed from the memorandum?

- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,

Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Thursday, September 10, 2015 12:57 PM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Cc: Jordan.Dickinson@mail.house.gov;mayor@cityofflint.com;HCroft@cityofflint.com;hedman.susan@epa.gov;poy.thomas@epa.gov;Schock.michael@epa.gov;Lytle.darren@epa.gov;fortin.denise@epa.gov;Shekter Smith, Liane (DEQ);Cook, Pat (DEQ);Busch, Stephen (DEQ);Wurfel, Brad (DEQ);Edwardsm@vt.edu
Subject: Letter Regarding Water in the City of Flint
Attachments: Flint Water Letter to DEQ 09102015.pdf

Director Wyant,

Please see the attached letter regarding water in the City of Flint. For your convenience, we are also mailing a hard copy of this letter to your office.

Thank you for your prompt consideration of this urgent matter impacting our community.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

STATE OF MICHIGAN

September 10, 2015

Michigan Department of Environmental Quality
Executive Division
DEQ Director: Dan Wyant
P.O. Box 30473
Lansing, MI 48909-7973

Director Wyant,

In light of recently released findings by the American Civil Liberties Union, independent researchers and a troubling interim U.S. Environmental Protection Agency memo from June, we are requesting additional answers about the safety and treatment of the City of Flint's water.

Several disturbing points have been raised and we have a number of urgent questions, including:

- **When did the MDEQ become aware of the June 24, 2015, interim EPA memo and whom was it shared with?**
  - Which Flint city officials also received this information?
  - Why was the memo not immediately shared with the public?
  - What response did MDEQ have to the EPA concerns raised in the memo?
  - Were any actions taken by the MDEQ as a result of the issues mentioned in the memo?
  - What steps, if any, were taken to determine the validity of the Virginia Tech study?

- **Please explain why the pre-flushing method of sampling was used in this instance.**
  - Is it the same method that is applied to all sampling or does the agency have the discretion to decide?
  - Who is responsible for making the decision to pre-flush?
  - The EPA memo references the Lead Copper Rule requirement that systems greater than 50,000 users maintain "corrosion control treatment." As the regulator, why did the MDEQ choose not to enforce that standard?
  - The EPA recommends allowing water to rest for at least six hours, but no more than 12 hours, before taking a sample. On MDEQ's Web site, it suggests flushing the line for five minutes before the six-hour rest. How did the department arrive at this method?

- According to a July 9, 2015, article on DeadlineDetroit.com, "Scary: Leaded Water and One Flint Family's Toxic Nightmare,"

> *"'The EPA offered Flint officials the use of agency experts to help get the situation under control," said Del Toral, but added that, to his knowledge, the city has so far declined all help.*
>
> *LeeAnne Walters said that when she asked why city officials weren't taking the EPA's offer of assistance, she was told, "We don't need it."*

STATE OF MICHIGAN

Flint spokesman Lorenz, on the other hand, maintained "the city continues to work closely with the MDEQ and the EPA Regional Office."

- Who refused the EPA's offer of expert assistance and why?

- **Is the damage done to the pipes (as described in the EPA report) accurate?**
  - If yes, will damaged pipes continue to leach lead or will properly treated water safely reach consumers?
  - What is the plan and timeline to address it?

- **And most importantly, what can be done immediately to ensure safe, affordable drinking water for the citizens of Flint?**

Many of the decisions that led to the current situation occurred while a state-appointed manager was in control and MDEQ personnel were consulted about testing methods and how to address the situation. In addition, MDEQ also encouraged the method of water testing used by Flint officials. We believe that there is a heightened obligation by the state to make this right.

Due to the serious public health threats of this situation, we respectfully request a response to these matters by Monday, September 14, 2015.

We will do our best to accommodate meeting requests, if necessary, but would appreciate written responses to the above questions so that we can make informed decisions swiftly to address these serious concerns.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

cc:
U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Muchmore, Dennis (GOV)
Sent: Tuesday, September 15, 2015 9:57 AM
To: Khouri, Nick (TREASURY);Saxton, Thomas (Treasury);Workman, Wayne (TREASURY);Wyant, Dan (DEQ);Roberts, John (DTMB)
Cc: Wurfel, Brad (DEQ);Agen, Jarrod (GOV);Clement, Elizabeth (GOV);Hollins, Harvey (GOV)
Subject: Follow up to previous email

Flint asks Snyder for $30M to upgrade water system

Associated Press 7:52 a.m. EDT September 15, 2015



Water from the Flint River rushes into the Flint water treatment plant in Flint.(Photo: File photo)

1 CONNECTTWEETLINKEDIN 2 COMMENTEMAILMORE

Flint — The mayor of Flint is asking Michigan Gov. Rick Snyder for $30 million to help upgrade the city's water system and replace lead service pipes.

The Flint Journal reports Mayor Dayne Walling announced his request while speaking Monday to the City Council. The request was made that day in a letter to Snyder.

The funds sought by Walling include $10 million to replace lead service lines and plumbing that can leach lead into drinking water. Virginia Tech researchers testing Flint's water have said residents shouldn't drink or cook with city water without flushing lines or using a filter.

The U.S. Environmental Protection Agency says Flint's water is within levels allowed for lead. The agency has said it would help the city in its efforts to reduce lead.

This Document is a Non-Responsive Attachment.

From: Saxton, Thomas (Treasury)
Sent: Tuesday, September 15, 2015 10:48 AM
To: Muchmore, Dennis (GOV)
Cc: Wurfel, Brad (DEQ);Agen, Jarrod (GOV);Clement, Elizabeth (GOV);Hollins, Harvey (GOV);Roberts, John (DTMB);Wyant, Dan (DEQ);Lyon, Nick (DCH);Khouri, Nick (TREASURY);Workman, Wayne (TREASURY)
Subject: Flint
Attachments: Fwd: PRESS RELEASE: Coalition for Clean Water Lawsuit Dismissed by Circuit Court

Wayne & I have a call scheduled with the Mayor, City Atty, & the City Mgr @ 4:00 today. We are following up to see if in fact they inadvertently missed filing the appeal on the rate case. If so, in my mind that would be a huge, costly blunder (but that is why we are talking to them) which will greatly exacerbate the financial condition/solvency of the system.
And recall (not that long ago) I believe we gave them approx. $2mm in SRF loan relief and approx. $2mm in grant money[cgap?] to improve the system.
We are having staff look at possible other assistance from a financing or loan perspective. My sense is there will not be much there if any.

p.s. – the Flint coalition lawsuit was dismissed (see attached)

From: Muchmore, Dennis (GOV)
Sent: Tuesday, September 15, 2015 9:52 AM
To: Khouri, Nick (TREASURY) <KhouriN@michigan.gov>; Saxton, Thomas (Treasury) <SaxtonT@michigan.gov>; Workman, Wayne (TREASURY) <WorkmanW@michigan.gov>; Lyon, Nick (DCH) <LyonN2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>
Cc: Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Agen, Jarrod (GOV) <AgenJ@michigan.gov>; Clement, Elizabeth (GOV) <clemente@michigan.gov>; Hollins, Harvey (GOV) <hollinsh@michigan.gov>; Roberts, John (DTMB) <RobertsJ9@michigan.gov>
Subject: Flint

Nice of Dayne Walling to work with us before he called yesterday to tell me he was going to announce to City Council last night that Flint needs and deserves $30M from the state for upgrades to their water system and a lead abatement program. Any thoughts on this?

From: Workman, Wayne (TREASURY)
Sent: Tuesday, September 15, 2015 9:58 AM
To: Saxton, Thomas (Treasury);Muchmore, Dennis (GOV)
Subject: Fwd: PRESS RELEASE: Coalition for Clean Water Lawsuit Dismissed by Circuit Court
Attachments: Coalition for Clean Water Lawsuit Dismissed 9.14.15.pdf; ATT00001.htm

Sent from my iPad

Begin forwarded message:

From: Jason Lorenz <jlorenz@cityofflint.com>
Date: September 15, 2015 at 9:37:25 AM EDT
To: undisclosed-recipients:;
Subject: PRESS RELEASE: Coalition for Clean Water Lawsuit Dismissed by Circuit Court

For Immediate Release

Lawsuit against City of Flint brought by Coalition for Clean Water Dismissed by Circuit Court

Flint, Michigan – September 15, 2015 – The lawsuit brought against the City of Flint by the Coalition for Clean Water has been dismissed by Circuit Court Judge Archie Hayman. In his September 14 ruling, Judge Hayman determined that the plaintiff did not state a valid cause of action against the City of Flint, the Mayor and the City Administrator. Judge Hayman also determined that he did not have jurisdiction to provide the relief sought by the plaintiff. All counts of the Coalition's amended complaint were therefore dismissed.

The City of Flint has maintained communication with both the Michigan Department of Environmental Quality and the United States Environmental Protection Agency to ensure all proper safety and quality standards have been followed. The MDEQ recently notified Flint that it is no longer in violation of the Safe Water Drinking Act due to total trihalomethanes (TTHM) following four consecutive quarters of testing showing levels below the federal action level. The

City of Flint will continue to work to ensure safe, quality and affordable drinking water to its residents, businesses and visitors.

The City of Flint will continue to provide updates on its water progress through its website, cityofflint.com. Anyone with water issues is encouraged to call 810-766-7202 so that they can be addressed. Residents wishing to receive a free and independent in-home water test can call 810-787-6537 or email flintwater@cityofflint.com.

–END–

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039 (Office)
(810) 875-2576 (Cell)
jlorenz@cityofflint.com



Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Jason Lorenz
Public Information Officer
(810) 237-2039
jlorenz@cityofflint.com

For Immediate Release

Lawsuit against City of Flint brought by Coalition for Clean Water Dismissed by Circuit Court

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–END–

From: Busch, Stephen (DEQ)
Sent: Tuesday, September 15, 2015 7:21 PM
To: Wyant, Dan (DEQ);Shekter Smith, Liane (DEQ)
Cc: Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Benzie, Richard (DEQ)
Subject: RE: Questions for Director Wyant
Attachments: NDWAC LCR Work Group Report Final 08 24 2015.pdf

See my responses below in red.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wyant, Dan (DEQ)
Sent: Tuesday, September 15, 2015 6:19 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ)
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: Fwd: Questions for Director Wyant

I will need to respond to this.

Sent from my iPhone

Begin forwarded message:

> **From:** "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
> **Date:** September 11, 2015 at 7:14:12 PM EDT
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
> **Subject: FW: Questions for Director Wyant**
>
> **I will also print for you – see below.**
>
> **From:** Jumana Vasi [mailto:JVasi@mott.org]
> **Sent:** Friday, September 11, 2015 5:29 PM
> **To:** Thelen, Mary Beth (DEQ)
> **Subject:** Questions for Director Wyant
>
> Hi Mary Beth –
>
> Thank you for arranging my call with the Director. He's asked me to send my follow-up questions in writing, so here they are below. Could you please forward them to him?
> Thank you,
> Jumana
>
> Dan –

Thank you so very much for your time this afternoon. Here are the questions we've got concerning Flint drinking water.

- The Lead and Copper Rule requires water systems to obtain prior approval from the State to add a new source of water or make any long-term change in water treatment process prior to implementation. Did the DEQ have any concerns related to the switch from Detroit water to Flint River water in terms of potential increases in corrosion?

Prior to becoming a customer of Detroit in the 1960's, the City of Flint operated its water treatment plant and obtained water from the Flint River. As Detroit was unable to provide a secondary feed to Flint, the City of Flint choose to keep its water treatment plant as an emergency backup. In 2014 service from Detroit was terminated and the City of Flint began using its water treatment plant again. Differences in water quality have long been recognized between treated Lake Huron water obtained from Detroit and Flint's treatment of Flint River water. Whenever community water systems make changes in source water or treatment that could impact corrosion they are required to return to full scale lead and copper monitoring for two six month rounds to demonstrate continued compliance with the action levels. The City of Flint has just completed this monitoring and met the action level.

- The corrosivity of Flint's drinking water seems to be the main contributor to lead levels from residential faucets*. Does the state offer recommendations (treatment options, consumer use guidelines, etc.) for dealing with water that is considered to be "highly corrosive"?

As a water system that serves a population of 50,000 or more, the City of Flint is also required to demonstrate optimized corrosion control in accordance with the lead and copper rule requirements. The City is in the process of installing additional corrosion control treatment measures. Should the City's compliance monitoring exceed the action level in future additional steps would be required following the lead and copper rule requirements.

Customers that participate in the City's lead monitoring are provided a copy of their result and information regarding actions they can take to help limit exposure see page 4 of the linked guidance
http://www.michigan.gov/documents/deq/deq-wb-dwehs-cws-LeadCopperRptConsNotice_294665_7.pdf
Information regarding lead is also included in the City's Annual Consumer Confidence Report (aka Water Quality Report). Below is a link to the City's report covering May – December 2014.
https://www.cityofflint.com/wp-content/uploads/CCR-2014.pdf

- Are other Michigan cities using similarly corrosive water? What steps are they taking to protect residents from lead leaching from their home plumbing systems?

The DEQ Office of Drinking Water of Municipal Assistance oversees more than 1,400 community water systems and nearly 10,000 non-community water systems across Michigan. This oversight includes Lead and Copper Rule requirements as part of the Michigan Safe Drinking Water Act. Systems that exceed action level requirements are required to take action in accordance with lead and copper rule requirements as established by EPA and under the primacy granted to MDEQ for this regulation.

- Is Flint conducting compliance monitoring under the Lead and Copper Rule? If so, why have their test results differed from the Virginia Tech findings?

Flint has certified that it is following the requirements of the Lead and Copper Rule. Flint provides customers bottles and instructions for sampling in accordance with these requirements and obtains a signed statement from customers that these instructions were followed (see link below). Samples are analyzed at a certified lab.
http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf

Virginia Tech has not provided any information to the DEQ regarding its sampling protocols and whether they have followed all requirements of the lead and copper rule.

- What could the city be doing to better educate and protect its residents

The City is already following requirements of the lead and copper rule. However reduction of exposure to lead in drinking water cannot be achieved by regulation alone. Effective elimination of leaded materials in contact with water is a shared responsibility. While the City could undertake a lead service line replacement program, partial lead service line replacement has been shown to exacerbate lead exposure, and many Flint residents are unable to afford replacement of their privately owned portion of the service line.

The DEQ is currently working with the Michigan Department of Health and Human Services to develop a more robust consumer awareness campaign regarding lead exposure through drinking water. We hope the City of Flint will partner with our agencies in this endeavor.

The August "Report of the Lead and Copper Rule Working Group To the National Drinking Water Advisory Council" (attached)discusses an number of other recommendations regarding public education.

Thank you for all of your help. We are really looking forward to having you here next week.

Jumana

*http://flintwaterstudy.org/2015/08/why-is-it-possible-that-flint-river-water-cannot-be-treated-to-meet-federal-standards/

Jumana Vasi
Program Officer, Environment Program
C.S. Mott Foundation
503 S. Saginaw Street
Flint, MI 48503
(810) 766-1714

Report of the Lead and Copper Rule Working Group To the National Drinking Water Advisory Council

FINAL

AUGUST 24, 2015

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Figure 1 – Overview of Recommended Revised Lead and Copper Rule Framework

Abbreviations

AL – Action Level
ALE – Action Level Exceedance
CCR – Consumer Confidence Report
CCT – Corrosion Control Treatment
DWLRP – Drinking Water Lead Reduction Plan
EPA – Environmental Protection Agency
LAL – Lead Action Level
LCR – Lead and Copper Rule
LCRWG – Lead and Copper Rule Working Group
LSL – Lead Service Line
LSLR – Lead Service Line Replacement
LTR LCR – Long Term Revisions to the Lead and Copper Rule
MCLG – Maximum Contaminant Level Goal
mg/L – Milligram per Liter
µg/L – Microgram per Liter
µg/dL – Microgram per Deciliter
NDWAC – National Drinking Water Advisory Council
OGWDW – Office of Ground Water and Drinking Water
OCCT – Optimum Corrosion Control Treatment
OWQP – Optimal Water Quality Parameter
PE – Public Education
pH – Negative log of hydrogen ion molar concentration
PLSLR – Partial Lead Service Line Replacement
POTW – Publicly Owned Treatment Works
POU – Point-of-use Treatment Device
PWS – Public Water System
SAB – Science Advisory Board
SDWA – Safe Drinking Water Act
DWSRF – Drinking Water State Revolving Fund
TT – Treatment Technique
WQP – Water Quality Parameter

Report of the Lead and Copper Rule Working Group to the National Drinking Water Advisory Council

1. Executive Summary

The Lead and Copper Rule Working Group (LCRWG) of the National Drinking Water Advisory Council (NDWAC) has completed its deliberations on issues associated with long term revisions to the Lead and Copper Rule (LCR). This report includes the group's findings and recommendations.

This executive summary provides a brief overview of the report. Details of the findings and recommendations are provided in the body of the report. A list of the members of the working group can be found in Appendix A.

1.1. Charge

The charge to the LCRWG was to provide advice to the NDWAC as it develops recommendations for the U.S. Environmental Protection Agency (EPA) on targeted issues related to long term revisions to the Lead and Copper Rule under the Safe Drinking Water Act (SDWA).

1.2. Findings and Recommendations

The anticipated Long Term Revisions to the Lead and Copper Rule (LTR LCR) is a very important opportunity for removing sources of lead in contact with drinking water and for reducing exposure to lead from drinking water in the meantime. Creative financing and robust public education also are essential.

The LCRWG took the following considerations, among others, into account in making recommendations for revisions to the LCR. A more detailed list of considerations is included in the full report.

There is no safe level of lead. Lead can pose health risks to anyone, but there are heightened risks for pregnant women, infants and young children and other vulnerable populations with both acute and chronic exposures. Effective elimination of leaded materials in contact with water and minimization of exposure to lead in drinking water is a shared responsibility; public water systems (PWSs), consumers, building owners, public health officials and others each have important roles to play. The lack of resources to reduce the sources of exposure in some communities, however, also raises important questions of disparate impact and environmental justice. Thus, creative financing mechanisms will be needed.

The LCR should remain a treatment technique rule, but it can be improved based on the scientific knowledge that has emerged since the current LCR was promulgated. Corrosion control treatment is complicated, and will vary based on specific circumstances in each public water system. Thus, regular updates to guidance by EPA based on the latest science and the creation of a national clearinghouse of information both for the public and for PWSs are needed.

The LCRWG considered but did not quantify the cost implications of its recommendations. An important factor in the group's deliberations was the principle that PWS and state resources should be focused on actions that achieve the greatest public health protection. Recognizing that lead service line (LSL) replacement programs will be costly in some locations, the LCRWG also encourages PWSs to incorporate

anticipated costs into their capital improvement program as appropriate to their situation, and urges states to include the costs of LSL replacement in their criteria for allocation of Drinking Water State Revolving Funds.

The LCRWG specifically recommends that EPA revise the LCR to:

- Require proactive lead service line (LSL) replacement programs, which set replacement goals, effectively engage customers in implementing those goals, and provide improved access to information about LSLs, in place of current requirements in which LSLs must be replaced only after a lead action level (AL) exceedance;
- Establish more robust public education requirements for lead and LSLs, by updating the Consumer Confidence Report (CCR), adding targeted outreach to consumers with lead service lines and other vulnerable populations (pregnant women and families with infants and young children), and increasing the information available to the public;
- Strengthen corrosion control treatment (CCT), retaining the current rule requirements to re-assess CCT if changes to source water or treatment are planned, adding a requirement to review updates to EPA guidance to determine if new scientific information warrants changes;
- Modify monitoring requirements to provide for consumer requested tap samples for lead and to utilize results of tap samples for lead to inform consumer action to reduce the risks in their homes, to inform the appropriate public health agency when results are above a designated household action level, and to assess the effectiveness of CCT and/or other reasons for elevated lead results;
- Tailor water quality parameters (WQPs) to the specific CCT plan for each system, and increase the frequency of WQP monitoring for process control;
- Establish a health-based, household action level that triggers a report to the consumer and to the applicable health agency for follow up;
- Separate the requirements for copper from those for lead and focus new requirements where water is corrosive to copper; and
- Establish appropriate compliance and enforcement mechanisms.

Although leadership by EPA is essential, reduction of exposure to lead in drinking water cannot be achieved by EPA regulation alone. Thus, this report also includes recommendations for renewed commitment, cooperation and effort by government at all levels and by the general public. We urge EPA to play a leadership role not only in the revisions to the LCR but also in educating, motivating, and supporting the work of other EPA offices; federal state and local agencies and other stakeholders. (See Section 4: Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water.)

2. Considerations and Background Information

2.1. Considerations in Preparing this Report

The members of the LCRWG brought different perspectives and expertise to the preparation of this report. Although not all members agreed with each and every consideration listed below, the LCRWG took one another's perspectives into account and, thus, the following concepts collectively underlie the recommendations in this report. Additional detail is provided in the recommendations section below.

- There is no safe level of lead. Lead can pose health risks to anyone, but there are heightened risks for pregnant women, infants and children with both acute and chronic exposures.
- Lead-bearing plumbing materials in contact with drinking water pose a risk at all times (not just when there is a lead action level (LAL) exceedance).
- Effective elimination of leaded materials in contact with water and minimization of exposure to lead in drinking water is a shared responsibility. PWSs, consumers, building owners, public health officials and others each have important roles to play.
- The LTR LCR is an important opportunity for removing sources of lead in contact with drinking water and for reducing exposure to lead from drinking water in the meantime. However, additional action beyond the scope of the Safe Drinking Water Act is needed. Removing lead from drinking water systems also will require renewed commitment, cooperation and effort by government at all levels and by the general public. (See Section 4: Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water.)
- Proactive action is needed to remove the sources of lead, with appropriate incentives both for PWSs and their customers needed to encourage such action.
- Successful implementation of the revised LCR can only take place in the context of a more holistic effort on lead in water issues involving stakeholders other than just EPA and water systems, and resources beyond those able to be brought to bear by water systems. Partnerships at all levels are essential. Recognizing that public agency budgets are tighter than ever, greater engagement by local health agencies, those funding housing programs, and those involved in permitting and construction is particularly important.
- Creative financing mechanisms also will be needed to achieve this goal for all individuals potentially exposed to lead, regardless of race, ethnicity or income. Leaving a lead service line in place because a low-income resident does not have the means to pay raises serious questions of disparate impact and environmental justice.
- The public plays a critical role in protecting their families' health by reducing exposure to lead and copper, and informing the public enables them to be effective participants in implementing their share of the responsibility.
- The issues associated with lead and copper are very different and warrant more separate attention than has been the case in the past.
- The LCR should remain a treatment technique rule, but it can be improved.
- Corrosion control treatment (CCT) is complex, dynamic, and varies based on the circumstances in each PWS. The understanding of the challenges with CCT has improved in recent years, but questions still remain.
- Attention to unintended consequences is important generally and, in particular, with respect to CCT.
- The presence of lead-bearing materials in premise plumbing raises issues about what systems can implement in customers' homes.
- Attention to what States are able to oversee and enforce also is important.
- PWS and state resources should be focused on actions that achieve the greatest public health protection.

2.2 Regulatory Background and Formation of the NDWAC Lead and Copper Work Group

Under the Safe Drinking Water Act EPA sets public health goals and enforceable standards for drinking water quality.[1] The Lead and Copper Rule is a treatment technique rule. Instead of setting a maximum contaminant level (MCL) for lead or copper, the rule requires (PWSs) to take certain actions to minimize lead and copper in drinking water, to reduce water corrosivity and prevent the leaching of these metals from the premise plumbing and drinking water distribution system components and when that isn't enough, to replace lead service lines under their control. The current rule sets an action level (AL), or concentration, of 0.015 mg/L for lead and 1.3 mg/L for copper. An AL is not the same as an MCL. An MCL is based on health effects and feasibility; whereas an action level is a screening tool for determining when certain treatment technique actions are needed.

The LCR action level is based on the practical feasibility of reducing lead through controlling corrosion. In the LCR, if the AL is exceeded in more than ten percent of tap water samples collected during any monitoring period (i.e., if the 90th percentile level is greater than the AL), it is not a violation, but triggers other requirements that include water quality parameter monitoring, corrosion control treatment (CCT), source water monitoring/treatment, public education, and lead service line replacement (LSLR). The rule also requires States to report the 90th percentile for lead concentrations to EPA's Safe Drinking Water Information System (SDWIS) database for all water systems serving 3,300 or more persons, and for those systems serving fewer than 3,300 persons only when the lead action level (LAL) is exceeded. States only report the 90th percentile for copper concentrations in SDWIS when the copper action level is exceeded in water systems regardless of the size of the service population. Public education requirements ensure that drinking water consumers receive meaningful, timely, and useful information that is needed to help them limit their exposure to lead in drinking water.

Copper is a common material used in household plumbing and drinking water service lines in the United States. Copper is an essential nutrient in small amounts; however, acute ingestion of excess copper in drinking water has been associated with adverse health effects, including acute gastrointestinal symptoms such as abdominal discomfort, nausea, and vomiting.

The SDWA requires EPA to set MCLGs at concentration levels at which no known or anticipated adverse effects would occur, allowing for an adequate margin of safety. EPA proposed an MCLG of 1.3 mg/l for copper in 1985, and finalized that MCLG in 1991 when the LCR was promulgated. The LCR set the action level (AL) for copper, the level at which treatment technique actions are triggered for the water system, equal to the MCLG. The AL is triggered if the 90th percentile level of water samples is exceeded. All community water systems must report the 90th percentile level and the number of samples that exceeded the 90th percentile in their Consumer Confidence Reports.

In early 2004, EPA began a wide-ranging review of the implementation of the LCR to determine if there was a national problem related to elevated levels of lead in drinking water. As part of its national review, EPA collected and analyzed lead concentration data and other information, carried out a review of implementation in States, held four expert workshops to discuss elements of the regulations, and worked to understand local and State efforts to monitor for lead in school drinking water, including a national meeting to discuss challenges and needs. EPA released a Drinking Water Lead Reduction Plan (DWLRP) in March 2005. This plan outlined short-term and long-term goals for improving implementation of the

[1] EPA establishes national primary drinking water regulations (NPDWRs) under SDWA. NPDWRs either establish a feasible maximum contaminant level (MCL) or a treatment technique "to prevent known or anticipated adverse effects on the health of persons to the extent feasible."

LCR. The plan can be found at the following web address:
http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/lead_review.cfm

In 2007, EPA promulgated regulations, which addressed the short-term revisions to the LCR that were identified in the 2005 DWLRP. These requirements enhanced the implementation of the LCR in the areas of monitoring, treatment, LSLR, public education, and customer awareness. These revisions were intended to better ensure drinking water consumers receive meaningful, timely, and useful information needed to help them limit their exposure to lead in drinking water.

A number of Safe Drinking Water Act (SDWA) amendments aim to reduce lead in drinking water by limiting the amount of allowable lead in plumbing materials that come into contact with drinking water. In 1986, the SDWA was amended to prohibit the "use of any pipe, any pipe or plumbing fitting or fixture, any solder, or any flux, in the installation or repair of (i) any public water system; or (ii) any plumbing in a residential or non-residential facility providing water for human consumption, that is not lead free". Lead Free was defined as solder and flux with no more than 0.2% lead and pipes with no more than 8% lead.

Congress again amended the SDWA in 1996, to prohibit the introduction into commerce of any pipe, pipe or plumbing fitting or fixture that is not lead free and to also require pipes, pipe or plumbing fittings or fixtures be in compliance with 3rd party lead leaching standards. These provisions ensure that only products meeting the lead free definition are sold in the U.S. and that pipes, pipe or plumbing fittings or fixtures are certified to be lead free.

The Reduction of Lead in Drinking Water Act of 2011 revised the maximum allowable lead content from not more than 8% to not more than a weighted average of 0.25% lead and included a calculation procedure for determining the weighted average; further reducing the amount of lead in contact with drinking water. It also eliminates the federal requirement to comply with the lead leaching standard and included exemptions from the lead free definition for plumbing devices that are used exclusively for non-potable services and also for specific plumbing devices such as toilets, bidets and urinals. The Community Fire Safety Act of 2013 further amended the SDWA to add fire hydrants to the list of exempted plumbing devices.

EPA has continued to work on the long-term issues that required additional data collection, research, analysis, and full stakeholder involvement, which were identified in the 2005 DWLRP and the 2007 rule revisions. This action is referred to as the LCR Long-Term Revisions (LTR). The LCR LTR would apply to all community water systems (CWSs) and non-transient non-community water systems (NTNCWSs). In this report, the term public water system (PWS) is meant to refer to both of these categories but not to transient non-community water systems.

Seeing the need for additional input on potential revisions to the Lead and Copper Rule, EPA requested that the National Drinking Water Advisory Committee (NDWAC) form the Lead and Copper Rule Working Group (LCRWG) to consider several key questions for the LCR LTR, taking into consideration previous input. The LCRWG met seven times in 2014 and 2015 to produce this report, and sought input from the NDWAC in advance of the last meeting to understand and address questions the NDWAC might have about the working group's recommendations.

A list of members of the working group is provided in Appendix A. This report was approved by the LCRWG, with one dissent.

3. Recommendations for Revisions to the Lead and Copper Rule

The long term revisions to the LCR is an important opportunity for removing sources of lead in contact with drinking water and for reducing exposure to lead from drinking water in the meantime. Creative financing and robust public education also are essential.

The LCRWG offers the following recommendations, based on information provided to the work group and on the work group's own deliberations. The LCRWG considers these recommendations to be an integrated package, not a menu of choices from which some recommendations can be selected and combined with others. This package reflects a concerted attempt to strengthen public health protection, which includes targeting the resources available to PWSs for the greatest public health value. While individual members might differ on specific recommendations, the work group (with one dissent) agrees that this package of recommendations constitutes an improvement over the current LCR.

The LCRWG carefully considered the information and questions posed by EPA in a white paper prepared for the working group. In its deliberations, the LCRWG came to the conclusion that the lessons learned from the implementation of the current LCR warranted a fresh look at the premises of the regulation. To truly solve the problem of exposure to lead in drinking water, the LCRWG concluded that lead-bearing materials should be removed from contact with drinking water to the greatest degree possible, while minimizing the risk of exposure in the meantime. That premise has led to a different paradigm for a revised LCR and, thus, to a somewhat different set of assumptions than underlay questions posed to the working group.

The diagram on page 12 illustrates the conceptual framework of the recommendations that follow.

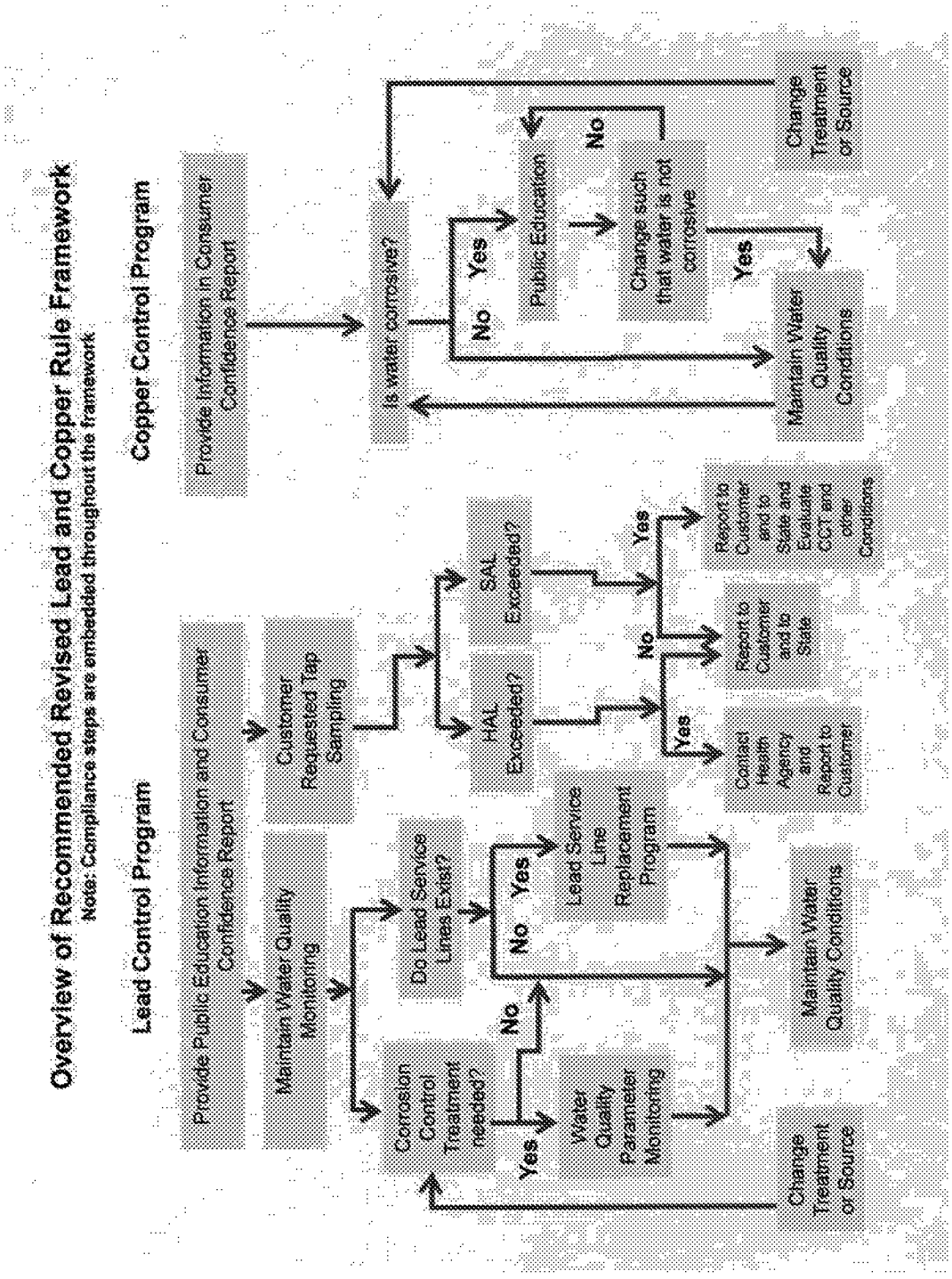
The LCRWG specifically recommends that EPA revise the LCR to:

- Require proactive LSL replacement programs, which set replacement goals, effectively engage customers in implementing those goals, and provide improved access to information about LSLs, in place of current requirements in which lead service lines (LSLs) must be replaced only after a lead action level (AL) exceedance and CCT;
- Establishes more robust public education, by creating a national clearinghouse of information for the public and templates for PWSs, by updating the Consumer Confidence Report, adding targeted outreach to consumers with lead service lines and other vulnerable populations (pregnant women and families with infants and young children), and increasing the information available to health care providers and the public;
- Strengthen corrosion control treatment (CCT), retaining the current rule requirements to re-assess CCT if changes to source water or treatment are planned, adding a requirement to review updates to EPA guidance to determine if new scientific information warrants changes;
- Modify monitoring requirements to provide for consumer requested tap samples for lead and to utilize results of tap samples for lead to inform consumer action to reduce the risks in their homes, to inform the appropriate public health agency when results are above a designated household action level, and to assess the effectiveness of CCT and/or other reasons for elevated lead results;
- Tailor water quality parameters to the specific CCT plan for each system, and increases the frequency of WQP monitoring for process control;

- Establish a health-based, household action level that triggers a report to the consumer and to the applicable health agency for follow up;
- Separate the requirements for copper from those for lead and focus new requirements where water is corrosive to copper; and
- Establish appropriate compliance and enforcement mechanisms.

Although leadership by EPA is essential, reduction of exposure to lead in drinking water cannot be achieved by EPA regulation alone. Thus, this report also includes recommendations for renewed commitment, cooperation and effort by government at all levels and by the general public. We urge EPA to play a leadership role not only in the revisions to the LCR but also in educating, motivating, and supporting the work of other EPA offices; federal, state and local agencies and other stakeholders. (See Section 4: Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water.)

Figure 1


Overview of Recommended Revised Lead and Copper Rule Framework
Note: Compliance steps are embedded throughout the framework
Lead Control Program
Provide Public Education Information and Consumer Confidence Report
Maintain Water Quality Monitoring
Corrosion Control Treatment needed?
No
Yes
Water Quality Parameter Monitoring
Change Treatment or Source
Do Lead Service Lines Exist?
No
Yes
Lead Service Line Replacement Program
Maintain Water Quality Conditions
Customer Requested Tap Sampling
HAL Exceeded?
SAL Exceeded?
No
Yes
Contact Heath Agency and Report to Customer
Report to Customer and to State
Report to Customer and to State and Evaluate CCT and other Conditions
Copper Control Program
Provide Information in Consumer Confidence Report
Is water corrosive?
No
Yes
Public Education
Change such that water is not corrosive
No
Yes
Maintain Water Quality Conditions
Change Treatment or Source

3.1. Replace Lead Service Lines[2]

Removing the sources of lead in drinking water should be a national goal. More proactive action than has taken place to date is needed to achieve it.

Although success in achieving this goal will require a concerted effort by many and can not be accomplished solely through the authorities provided under the Safe Drinking Water Act, revisions to the Lead and Copper Rule are an important component to achieving this goal and should be structured accordingly. [See Section 4 for recommendations that complement revisions to the LCR.]

The existing LCR has not created sufficient incentives to fully replace LSLs and other sources of lead , because LSL replacement is only required when the lead AL has been exceeded and optimizing CCT is insufficient to bring a system back under the action level. Systems that do not exceed the lead AL will never have to implement a LSL replacement program. Further, the link to action level exceedance does not allow adequate time for a well-planned LSLR program, and a significant unintended consequence where systems have had to implement a LSL replacement program quickly has been an increase in partial LSL replacement.

EPA asked the Science Advisory Board (SAB) to evaluate the current scientific data regarding the effectiveness of PLSLR and the review centered around five issues: (1) associations between PLSLR and blood lead levels in children; (2) lead tap water sampling data before and after PLSLR; (3) comparisons between partial and full LSLR; (4) PLSLR techniques; and (5) the impact of galvanic corrosion. The SAB found that the quantity and quality of the available data are inadequate to fully determine the effectiveness of PLSLR in reducing drinking water lead concentrations. The small number of studies available had major limitations (small number of samples, limited follow-up sampling, lack of information about the sampling data, limited comparability between studies, etc.) for fully evaluating PLSLR efficacy.

While recognizing the limits to current data, the SAB concluded that PLSLRs have not been shown to reliably reduce drinking water lead levels in the short-term, ranging from days to months, and potentially even longer. Additionally, PLSLR is frequently associated with short-term elevated drinking water lead levels for some period of time after replacement, suggesting the potential for harm, rather than benefit during that time period. The available data suggest that the elevated tap water lead levels tend to increase then gradually stabilize over time following PLSLR, sometimes at levels below and sometimes at levels similar to those observed prior to PLSLR. The SAB also concluded that in studies comparing full LSLR versus PLSLR, the evaluation periods were too short to fully assess differential reductions in drinking water lead levels. However, the SAB explained that full LSLR appears generally effective in achieving long-term reductions in drinking water lead levels, unlike PLSLR. Both full LSLR and PLSLR generally result in elevated lead levels for a variable period of time after replacement. The limited evidence available suggests that the duration and magnitude of the elevations may be greater with PLSLR than full LSLR.

Taking all of these considerations into account, the LCRWG has concluded that an effective framework for replacement of LSLs would include the following and, thus, the LCR should be revised accordingly:

[2] 40 CFR 141.2 defines: *"Lead service line* means a service made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line."

- Requiring all PWSs to establish a LSL replacement program that effectively informs and engages customers to share appropriately in fully removing LSLs, unless they can demonstrate that LSLs are not present in their system;
- Modifying the definition of lead service lines to include any service line where any portion, including a lead pigtail, gooseneck or other fitting, is made of lead;
- Clear guidance, case studies, and templates for LSL replacement programs, including a toolkit of ideas for creative financing strategies;
- Targeted outreach to customers with LSLs, with information about the risks of lead exposure, an offer to test a tap sample, and information about and encouragement to participate in the LSL replacement program;
- Dates by which systems should have met interim goals and completed replacement of all LSLs and PLSLs, without penalty to PWSs for those homeowners who refuse to participate in the replacement program as long as the PWS has made a meaningful effort to work with such a homeowner;
- Creating incentives for understanding where LSLs and PLSLs exist, while making action on full replacement, rather than on investigation of the location of LSLs and PLSLs the priority;
- Maintaining ongoing-outreach to homeowners where LSLs or PLSLs still exist;
- Implementation of standard operating procedures (SOPs), either from EPA guidance or tailored to the system, that helps define operations that disturb LSLs and practices to minimize disturbance and consumer exposure to lead;
- Stronger programs to educate consumers, and to provide test results of tap samples at the request of consumers;
- Focus efforts on action to replace LSLs rather than on the time and expense of upfront plan approval and on using simplified reporting to the states so they would only need to intervene when problems arise; and
- Requirements that provide strong encouragement for full LSL replacements, with the understanding that there may be justifiable exceptions and that those exceptions would occur only after the efforts outlined in the recommendations below on the part of the PWS to work with customers to complete a full LSL replacement. Such exceptions might include emergency repairs where property owners have refused to participate in a full LSL replacement; during a main replacement project; or when a sufficiently high percentage of property owners participate in an area-wide LSL replacement project to justify replacing LSLs to the property lines of those who do not participate at the time. Revisions to the LCR should include options for risk management to occupants of those properties with remaining, partial lead service lines, e.g. additional sampling, filters, dielectrics to reduce the risk of galvanic corrosion, plastic piping, aggressive premise flushing, etc.

3.1.1. Update Inventories and Improve Access to Information about Lead Service Lines

Updating and improving access to information about the location of both full and partial lead service lines is both essential to ensuring LSLs are replaced and important for successful, proactive outreach to customers who are most likely to have a LSL.

The LCRWG recommends combining:

1) The presumption that a service line put in place prior to the date when lead service lines were prohibited has leaded materials unless the PWS has information to confirm that it not, with

2) Providing credit to a PWS toward its replacement goals for demonstrating that a service line presumed to include lead does not have leaded materials.

This approach is intended to create incentives for prompt action to develop an accurate inventory of LSLs and PLSLs in part by being overly conservative initially on the potential existence of LSLs, time to organize an effective replacement program, and an opportunity to take action to replace LSLs rather than devoting time and resources on planning documents that must be approved by the primacy agency.

The LCRWG recognizes that PWSs vary in the amount of information they have about the location of full and partial LSLs. EPA should take the impact on small and medium systems into account when developing the proposed rule.

The LCRWG also recognizes that the current definition of a lead service line exempts a service line that has a lead pigtail or gooseneck or other fitting but is otherwise not made of lead. We recommend that the LCR be revised to remove this exemption since a lead pipe, even if only a small portion, poses a sufficiently similar risk as a full lead service line. Because utilities may not know where these portions are and may not be able to locate them without excavating, we recommend that the presumption described above not apply to lines where the utilities do not have information or are unaware of their use. Finally, we recommend that these fittings be replaced when they are encountered during excavations and that the applicable operations and customer engagement requirements described in the next section apply.

In addition, the LCRWG recommends that all PWSs should establish a clear mechanism for customers to access information on LSL locations (at a minimum). Detailed public education recommendations for both lead and copper follow in separate sections. With respect to information about LSLs, PWSs should:

- Have outreach materials that indicate that property specific information is available.
- Inform customers who may have LSLs about the risks of partial line replacement, who is responsible for paying for replacing the service line, and the legal basis of that determination.
- Provide information it has about LSLs to existing home owners and residents on request.
- Provide information to realtors, home inspectors, and potential home buyers on request
- Communicate that this information is subject to disclaimer for accuracy based on information available to the PWS.
- Develop a system to track LSL replacement.

Where a service line serves multiple dwellings or places such as schools or child care centers that have many children, EPA should establish a formula for giving an extra weight or numerical count to these

lines in the initial inventory to recognize the additional children that would be affected and effectively prioritize replacement of these LSLs.

3.1.2. Establish Active LSL Replacement Programs

Proactive LSL replacement programs by PWSs and their customers are key to moving to a future in which lead is not in contact with drinking water. To accomplish this, the LCRWG recommends replacing the current regulations, in which LSL replacement is required only if a PWS has a lead AL exceedance and after the PWS takes action to operate CCT, because this has not resulted in the complete replacement of many LSLs across the country. [3]

Instead, a revised LCR should include a requirement that all PWSs with lead service lines prepare and implement a LSL replacement program, along with a combination of changes to the regulatory approach described in this report and supportive actions by other public and private agencies, customers and other stakeholders. Taking this approach has the advantages of making replacement of LSLs something all systems do and of establishing programs that are put in place in an organized and measured way.

Supportive actions include increased funding of federal lead risk reduction programs under the Department of Housing and Urban Development (HUD) to help fund customer-owned portions of LSLs and to consider federal tax deductions for this purpose. Additionally, states should pass legislation requiring inspection, disclosure and/or replacement of LSLs on sale of property, and when lines have been disturbed as part of a renovation. Details on these and other ideas are included in Section 4 of this report.

The LCRWG recommends that EPA include the following revisions to the LCR:

1. *Goal:* PWSs will work with their customers to implement full replacement of all lead service lines in their service areas according to the milestones outlined in Table 1. Revisions to the LCR should maximize the likelihood of achieving this goal, consistent with the recommendations in this section. EPA should urges PWSs to work with their customers to replace LSLs in their service areas more quickly, while recognizing that the recommended approach of replacing LSLs in all PWSs with LSLs adds a new and potentially costly requirement for utilities and their customers with LSLs who currently are not and may not ever be triggered into a LSLR program under the current rule.

2. *Interim Milestones:* PWSs that identify LSLs in their inventory should be required to perform targeted outreach to customers on the inventory of LSLs and to work with them to replace LSLs according to a sequence of three-year milestones,[4] beginning 36 months after the effective date of a revised LCR. Milestones would be set at a faster pace in earlier years and would recognize progress may be more difficult to achieve in later years with those LSLs that remain at that time. Table 1provides an illustration of this concept. PWSs should be encouraged to contact a larger number of homeowners than needed for compliance, since some homeowners may fail to reply or may refuse to participate. If replacement goals are not met, the revised LCR should require the PWS to take additional actions intended to enhance interest in and incentives for customer participation in full LSL replacement. The details of this approach should be determined by EPA with the intent of the LCRWG being that the PWS be given the flexibility to choose among

[3] EPA estimates that there were approximately 10.5 million LSLs in 1988 before the promulgation of the LCR and approximately 7.3 million LSLs now.
[4] Three years is a standard reporting timetable for drinking water regulations.

options that are appropriate for the size and type of ownership of the system and that the number of required efforts would increase over time if replacement goals are not met. EPA should seek to add to the initial list of options suggested in Table 2 to ensure a robust menu for PWSs to choose from (again considering system size and type of ownership) to avoid a situation where a PWS is forced into specific actions; and EPA should set the number of required efforts with consideration for the number and feasibility of choices provided.

3. *Replacement Credit:* The following actions can be counted toward the cumulative replacement requirement:

   - Full LSL replacement
   - Replacement of lead pigtail where the pigtail is the only leaded material on the service line
   - Confirmation that an LSL included in the initial inventory is not lead.

   PLSLR will not be counted toward this requirement. Lack of response or refusal to participate by the customer also will not count toward replacement milestones.

4. *Targeted Outreach*: EPA should create a list of options in the rule of approved outreach methods for contacting customers with LSLs and inviting them to participate in the utility's LSLR program. Table 2 provides an initial list of options for such resident engagement, along with additional system policies and other actions if milestones aren't met. EPA also should provide guidance and/or templates for these options. For compliance purposes, the revised LCR should require that a PWS individually notify customers with known or possible LSLs describing the risks of lead in drinking water, specifically inviting them to participate in the LSLR program, and clearly describing the terms of the program, and how to follow up. If the customer does not respond or chooses not to participate, the PWS must follow up with another invitation at least every three years and always when there is a new customer at that address until the full LSL is replaced.

5. *Control and Responsibility:* The revised LCR should require PWSs to clearly state how the PWS defines ownership of LSLs, who has what financial responsibility for the replacement, what the legal basis is for that determination and any financial assistance programs that may be available.

6. *Planning and Financing Options:* EPA should provide a template and guidance for planning LSL replacement programs, including reference to options to assist customers replace their portion of lead service lines. Small systems may wish to refer to a national information source, such as one provided by EPA; large systems may wish to tailor such information to their circumstances. (See section 4 for further detail.)

7. *Operations and Customer Engagement:* EPA also should provide guidance on PWS policies and procedures for how to engage customers in full lead service line replacement and to inform them on appropriate risk reduction measures. PWSs should adopt templates provided in guidance by EPA or, for larger systems, their own standard operating procedures (SOPs) and make them available to their customers and the primacy agency for:

   a) planned capital projects by the PWS that would require:
      - Prior notification (e.g., 45 days prior to planned main replacement or repair) - Contact letter to affected households likely to have lead service lines, providing information about lead service lines, associated risk, risk reduction options, and full-lead service line replacement options.

- Reminder of flushing post LSLR (e.g., 48 hours prior to actual field work affecting structure) -- Door hanger (or alternative direct contact) with information on flushing and POU devices immediately after lead service line replacement.

b) emergency main and service line repairs by the PWS that would define how to manage potential disturbance to LSLs safely:
   - Direction to information on lead service lines, associated risk, risk reduction options, and full-lead service line replacement options.
   - Door hanger (or alternative direct contact) with information on flushing and POU devices immediately after lead service line replacement.

c) flushing of service lines after lead service line replacement:
   - Flush outside hose bib or similarly located spigot close to the meter
   - Initial flush followed by house flush by homeowner or plumber using multiple taps to maximize water velocity
   - Information on proper use of filters when lead levels might be high

d) Requiring PWSs to inform other utilities (e.g. power, cable) whose work might affect water service lines or water mains, both proactively and at "mark out" for specific projects, about how to manage potential disturbances safely and about information to provide residents of affected homes about potential risks and risk mitigation measures. Those other utilities would have the responsibility to alert residents.

8. Community and NTNC water systems (schools, hospitals, churches, jails, etc.) who own the system and control the entire distribution system should replace LSL's as soon as practical, at a timetable to be determined by EPA. This requirement would not apply to community systems where the majority of the connections are individual residential connections (such as mobile home parks and HOA's) where there may be complications due to property ownership of the residence.

The LCRWG discussed and agreed that EPA guidance should encourage PWSs to make every effort to ensure that LSL replacement provides equal protection to low income customers (or rental units with low income residents), people of color and others protected by civil rights law and policy. Environmental justice and civil rights considerations are particularly important in those jurisdictions where the PWS requires the property owner to pay a share of the costs of removing the LSL. Making environmental justice a priority can be achieved through creative financing programs for low-income customers and setting priorities for which neighborhoods are targeted first for LSLR to ensure equal treatment of low income neighborhoods.

The LCRWG also discussed but did not agree that the definition of control as ownership should be changed in the revised LCR. In the current LCR, when a system exceeds the LAL, EPA requires water systems to replace only that portion of the LSL that it owns. This is based on EPA's current interpretation of the term "control" in the definition of public water system as limited to ownership. Some members of the LCRWG urged that the current definition of control as "ownership" should be replaced with a requirement that PWSs must replace the entire LSL, where they have the authority to "replace, repair, or maintain" the line or where they have other forms of authority over the LSL. However, the LCRWG also recognized that some utilities are prevented by law from spending public funds on private property and that gaining physical access to private property poses significant legal issues when a property owner objects.

The LCRWG does agree that the revised LCR should require PWSs to inform customers about the scope of their responsibility with regard to LSL replacement and the legal basis for that decision.

3.1.3 LSL Compliance

3.1.3.a LSL Replacement Compliance

Recordkeeping:
- Inventory of LSLs
- Customer refusals to participate in full LSL replacement

Reporting: At the end of each three year period, each PWS must provide to the primacy agency:
- Certification of the outreach and other efforts implemented (see Table 2 for initial examples);
- Report on the change in the number of LSLs removed from the inventory with better information;
- Report on the number of full LSLs replaced; and
- Report on locations where the utility side LSL was replaced, but the homeowner did not replace the private portion

Violations:
- Failure to conduct required outreach;
- Failure to step up intensity of efforts if 3-year LSL replacement target has not been met;
- Failure to provide on-going outreach to new customers and to follow up (at least every 3 years) with customers at locations with full or partial LSL who do not respond or chose not to participate in the LSL replacement program;
- Outreach materials do not meet the content requirements of the rule

3.1.3.b Operations and Customer Engagement Compliance

PWS must maintain records of who was notified, when notice was given, and content of notice for each capital project. (for 7a and 7b)

Violations:
- Lack of timely notice to customer that LSL removal is scheduled
- Notice materials do not meet rule content requirements

PWS also must develop SOP, and maintain records that it was provided to all utilities conducting activities which may impact LSL (for 7d)

Violation:
- PWS has not developed an SOP (or adopted an SOP template available on the National Clearinghouse) or not provided it to other utilities

3.2 Develop Stronger Public Education Requirements and Programs for Lead and LSLs

Given the public's role in the shared responsibility nature of the LCR, notifying and educating the public about lead in drinking water is important for risk reduction. Public education about the risks of lead in drinking water also is important regardless of whether LSLs are present, since lead can be present in other

premise plumbing materials. Moreover, targeted outreach and, possibly, other efforts are a key to the success of LSL removal programs. The current LCR does not adequately focus on creating on-going opportunities to educate customers on the risks of LSLs or on opportunities to replace them, especially when action is most likely, e.g. at the sale of a home.

The objectives of public education programs should include consumer understanding of: 1) the risks of lead in drinking water; 2) the likelihood that the water in one's home may contain lead; 3) the LCR as a "shared responsibility" rule; and 4) the availability of additional resources that consumers can use to better minimize their exposure to lead.

Although the LCRWG was briefed on and has experience with public education requirements and practices, it does not include members whose specific area of expertise is consumer-centered risk communication. Thus, the LCRWG generally recommends that public education programs for lead should move away from past practices of one-way communication from "experts" to the "public" toward newer concepts of risk communication that involve sustained, multiple, two-way channels of ongoing communication and partnership with the public.[5] EPA should consult with those with such expertise about the outreach and communication recommendations in this report, and encourage and apply best practices in effective ways to communicate with the public.

Communication in languages appropriate to the demographics of the community, in clear terms understandable by the public, and with engaging, reader-friendly graphics, photos, and video all help achieve greater understanding. Outreach programs and materials can be improved by involving people with diverse, and consumer-oriented expertise and perspectives, including consumer-centered risk communication experts, community members with extensive experience with lead in water including individuals not necessarily affiliated with an organization, lead/copper corrosion experts, grassroots public-health workers, and staff of PWSs, state and federal regulatory agencies and public health agencies. This information can and should be conveyed in different ways and through different communication channels, tailored to the specific circumstances.

Thus, with these and other considerations in mind, the LCRWG recommends that EPA, in consultation with the aforementioned stakeholders and drawing on principles of consumer-centered risk communication:

- Establish an easily accessible, national clearinghouse of information about lead in drinking water to serve the needs of the public and of public water systems (section 3.2.1).
- Require information be sent to all new customers on the potential risks of lead in drinking water (section 3.2.2)
- Revise the current CCR language to address lead service lines and update the health statements (section 3.2.3).Add requirements for targeted outreach to customers with lead service lines (section 3.1.1).

[5] Resources include: 1) EPA's "Risk Communication in Action" (http://nepis.epa.gov/Adobe/PDF/60000I2U.pdf) ; 2) EPA's "7 Cardinal Rules of Risk Communication" (http://www.wvdhhr.org/bphtraining/courses/cdcynergy/content/activeinformation/resources/epa_seven_cardinal_rules.pdf); and 3) Education & Communication WG Report 2010; National Conversation on Public Health and Chemical Exposures (http://www.resolv.org/site-nationalconversation/files/2011/02/Education_and_Communication_Final_Report.pdf)

- Strengthen requirements for public access to information about lead service lines, tap monitoring results, and other relevant information (section 3.2.4).
- Expand the current requirements for outreach to caregivers/health care providers of vulnerable populations (section 3.2.5)

As part of EPA's consultation with the aforementioned communication experts and stakeholders, the LCRWG recommends that EPA include consultation about methods that would increase public awareness of and motivation to learn about the effects of lead in drinking water and the benefits of removing these materials and/or taking regular precautions when cooking or drinking, regardless of whether LSLs are present or there has been a lead AL exceedance. Consistent with this advice, EPA also should take small systems into account and consider whether such methods should be included in guidance or in revisions to the LCR.

3.2.1 National Lead in Drinking Water Clearinghouse

The LCRWG recommends that EPA take the lead, working with other partners to establish a national, accessible information clearinghouse. The LCRWG suggests that this information clearinghouse include a website, that the materials on the web site be accessible for distribution through the Safe Drinking Water Hotline for those who may not have internet access, and that EPA investigate and apply newer communication technologies and ideas for interactive or other innovative means of communication with the public about lead in drinking water (e.g. social media methods and outreach programs).

The clearinghouse should include information in multiple languages, in clear terms understandable by the public, and should include engaging, reader-friendly graphics, photos, and video. EPA is encouraged to include the design of the clearinghouse in its consultation with people with diverse, and consumer-oriented expertise and perspectives described above.

Such a clearinghouse would be intended for use by the general public, PWS's, public health agencies, and health professionals. It should include:

- information and educational materials for the public that the public could access directly and that PWSs could use to meet many of the public education requirements of the LCR.
- guidance and templates, particularly for small systems, on SOPs for compliance with the LCR (e.g. templates for communicating lead monitoring results to individual customers, templates for explaining to customers how to obtain information on whether their service line could be lead, templates for standard operating procedures related to the LSL replacement program recommendations above, etc).
- Principles and guidelines for best practices in developing the content of the public education materials.
- Case examples of how communities have been successful in lead inventory updates and removal programs, information about funding sources, model ordinances or other types of authorities PWSs have to enable them to implement full LSL replacements, and contacts to other relevant agencies.

Further, EPA should consider best practices in methods for achieving greater public awareness of the clearinghouse so that it reaches as many people as possible.

The web site should include the following information:

Health risks

- Clear and prominent statement that no level of lead in drinking water is safe for human consumption and that a short-term exposure to a young child can result in permanent harm to the brain if the levels are high enough.
- Clear and distinct language on the health risks of consuming lead in drinking water
- Identification of the most vulnerable populations
- Importance of drinking water plumbing as a lead source
- How to have blood lead levels (BLLs) checked and limitations of testing
- How to have water tested and limitations of testing
- List of labs for testing water other than the utility and what to ask for in terms of number and size of bottles, diameter of mouth of bottles, analysis that measures lead particles, etc.

Forms of lead in water and health risk implications

- Soluble
- Particulate
- Unpredictability of lead release

Sources of lead in drinking water

- LSLs
- Other lead-bearing plumbing
- Scale on internal plumbing that can be a source of lead from present or past LSLs

Identification of service line material

- How to recognize a pipe that is made of lead (and when not to check due to age of home)
- What to do about galvanized pipe and why it is a potential source of lead

For homes with LSL

- LSL ownership
- Difference between full and partial lead service line replacement (physically and in terms of health risks)
- Benefits to full LSL replacement
- Actions to take if you have a partially replaced LSL
- Available methods for LSL removal
- Opportunities for removal, approximate cost, and financing options
- Overall benefits to the community of removing LSLs fully (lower treatment costs, better community health, environmental, etc.)
- Where applicable, requirements for notification during real estate transfer or new rental

Health-protective actions

- Precautionary water-use practices
- Role of filters and proper maintenance of them if they are used
- Replacement of leaded plumbing with lead-free plumbing

Additional information

- How to contact your utility and request a LSL inspection and/or water test
- Where applicable, reference to utility-specific website with local lead-related documents and data (e.g. Consumer Confidence Reports (CCRs), sampling protocol used for LCR compliance, lead-in-water test results, etc.)

- What you need to know about lead in water in schools and day care centers (it is not regulated, and link to national website that provides more information)
- Reference to a national website that provides a video version of basic educational information, including information on how the LCR works (with minority language versions)
- Other standard operating procedures, model ordinances, or templates for compliance with the revised LCR
- Where to get more information on drinking water, on lead in water, and on lead in general

3.2.2 Outreach to New Customers

The LCRWG recommends that a revised LCR require PWSs to provide information to all[6] new customers in a letter or via other direct means on the potential risks of lead in drinking water.

The outreach materials should include information about the potential for lead from plumbing materials to contaminate drinking water even when a PWS meets the LCR LAL, to contaminate drinking water in homes with and without LSLs, and to pose chronic and acute health risks to vulnerable populations. The specific information to be covered in those materials could be included in the consultation with the diverse group of experts as described in the introduction to Section 3.2 above and in Section 4 below. Although the LCRWG defers to such a group, it suggests that at a minimum the following topics be covered:

1. Information about lead in drinking water (its sources, variable and erratic release, and wide range of lead concentrations)
2. Information about the health effects of lead in drinking water (including chronic and acute health risks)
3. Information about the LCR's shared responsibility regime
4. Actions the PWS is taking to minimize lead in drinking water
    - PWSs with LSLs would mention their proactive LSL replacement program
5. Steps consumers can take to reduce exposure to lead in drinking water
    - In addition to a list of actions like the ones mentioned in the current Rule, PWSs with LSLs would spell out how consumers in homes with a LSL can participate in their proactive LSL replacement program
6. Phone numbers and online links for additional information (including a link to EPA's online National Clearinghouse)

The outreach to new customers should be delivered within 30 days or with the first bill.

3.2.3 Revise the Current CCR Language

The CCR is a necessary but not sufficient source of information for the public. It can provide general information, but is not designed to be frequent or detailed enough for all public education purposes.

All community water systems (CWSs) should continue to include a statement about lead in their CCR. There may be circumstances (e.g. a subdivision built entirely after January 2014 when "lead-free" requirements came into effect), where a CWS can demonstrate that there are no lead-bearing materials in contact with drinking water. EPA may want to consider allowing the primacy agency to waive this CCR language requirement if an entire CWS can meet this criterion.

[6] EPA may wish to consider circumstances under which exceptions might be applicable.

The LCRWG recommends that the CCR language should be strengthened to include:

- Public health statements updated to reflect current understandings that there is no safe level of lead and a summary of the health effects, that this risk pertains to everyone, and that some individuals are particularly vulnerable;
- A link to the national clearinghouse should be added to the CCR for all CWSs;
- Recognition that a CWS's compliance with federal regulations does not guarantee what level of lead (lower or higher) might be found at the tap in a particular home; and
- The message that customers play an important role in protecting themselves from exposure to lead.

In addition, the work group recommends that PWSs where full or partial lead service lines exist (or are presumed to exist until an inventory demonstrates otherwise) also add information about what a lead service line is and how to contact the utility for information about how to find out if you have one and why you should replace it.

Further, the LCRWG recommends that the following redraft of the CCR be considered as a starting point for incorporating the elements listed above, to be reviewed by the diverse group of experts that the LCRWG suggests EPA consult .

> ***Important Information from EPA about Lead*** *If lead is present in your drinking water, it ~~elevated levels of~~ can cause serious health problems, especially for pregnant women and young children. Lead can affect children's brains and developing nervous systems, causing reduced IQ, learning disabilities and behavioral problems. Lead is also harmful to adults. Lead in drinking water is primarily from materials and components associated with ~~service lines and~~ home plumbing and service lines (the pipe connecting your home to the water main). ~~(System name) is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.~~ Contact us for information about lead service lines, how to find out if you have one and why you should replace it. [Last sentence for systems with LSLs.]*
>
> ~~*When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.*~~ *Protecting you against exposure to lead is a shared responsibility. Your water utility is required to minimize the corrosivity of the water. However, because every home is different, the amount of lead in your tap water may be lower or higher than the monitoring results for your public water system as a whole. You can take responsibility for identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. If you have lead service lines or lead-bearing materials in your home, ~~are concerned about lead in your water,~~ you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or www.epa.gov/safewater/lead. [Insert new national web site link]*

3.2.4 Strengthen Requirements for Public Access to Information

The LCRWG supports the public's right to know about the quality of their water and considered various options to increase the public's access to data related to lead and copper.

Under the current rule, the PWS is only required to make publicly available through the Consumer Confidence Report (CCR) that the "90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level." 40 CFR 141.153. In many jurisdictions, a

concerned consumer may be able to obtain or view a redacted version of the complete sampling data set but this approach is time-consuming and burdensome on the PWS (or the state) and the community. EPA receives only a summary of the sampling results.

As the LCRWG evaluated different approaches, we kept in mind EPA's Office of Enforcement and Compliance Assurance (OECA) five principles for highly effective regulations and that OECA is working with regulatory programs to evaluate new and revised rules against these principles. Principle 4 calls for rules to "leverage accountability and transparency by providing the government and the public with real-time access to quality information on regulated entities" emissions, discharges and key compliance activities and outcomes." OECA identified two tools to accomplish this:

- Electronic reporting to the government.
- Public accountability via websites, paper/electronic mailings, and other ways to provide the public and stakeholders (e.g., customers, ratepayers) with compliance information.

The LCRWG encourages EPA to use the SDWIS-Prime data system[7] that is under development to meet the first provision of the above goal. Electronic reporting from utilities to a centralized data system would allow the public to access data from the State or EPA in a coordinated manner and allow for consistent access to all water quality data, not just data for lead and copper.

Until such time as the new data system is in place, though, the LCRWG believes that water systems should increase the availability of data to the public. This would include:

- The number of samples over the Household Action Level (described in Section 3.5 below) in the last monitoring period, the highest level found during the last monitoring period, the median levels, and the most recent 90th percentile level compared to the "system action level" (renamed from the current action level).
- Requiring water systems to include WQP-related information on their webpage, or in the CCR or some equally accessible manner (e.g., CCT treatment, approved WQP ranges, WQP results from the last monitoring period)
- Encouraging water systems to post additional information on their webpages such as:
    - Public education materials (and link to National Clearinghouse).
    - Sampling protocols the water system provides to customers to use when collecting lead samples and any variations from EPA recommendations.
    - Individual sampling results (with appropriate privacy provisions such as address redaction).
    - Inventory (such as a map) of confirmed and presumed lead service lines.

Where a community has lead service lines, EPA should require PWSs provide a public statement of lead service line ownership and the legal basis of said determination. (See section 3.1.2, point 5 *"Control and Responsibility."*)

[7] SDWIS is a database for storage about drinking water systems. The federal version (SDWIS/FED) stores the information EPA needs to monitor approximately 156,000 public water systems. The state version (SDWIS/STATE) is a database designed to help states run their drinking water programs. SDWIS-Prime is an upcoming version of this program. The website for SDWIS is located here:
http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/index.cfm
SDWIS Reports:
http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/howtoaccessdata.cfm

3.2.5 Routine Outreach to Caregivers/Health Care Providers of Vulnerable Populations

The LCRWG recommends that a revised LCR encourage PWSs to cooperate in locally appropriate public education programs targeted at caregivers and health providers of the populations most vulnerable to lead in drinking water (i.e., pregnant women, infants, young children, and children with elevated BLLs). The intent of such outreach is to raise awareness among caregivers and health providers about the health risks of lead in drinking water, easy steps to prevent exposure, and the availability of EPA's online National Clearinghouse for further information. It is expected that public education messaging in service areas with LSLs will differ from public education messaging in service areas without such lines.

In conducting outreach to caregivers and health care providers it is important that the message be provided by an organization or individual that carries credibility with those audiences. The LCRWG suggests the way to best ensure that caregivers and health providers hear and respond appropriately to information about lead and drinking water is for water suppliers to participate in joint communication efforts, lead by state health departments, state lead poisoning prevention agencies, and state drinking water primacy agencies. This outreach should be targeted to individuals, organizations and facilities likely to be visited by the vulnerable populations of pregnant women, infants, and young children, such as:

1. local public health agencies;
2. public and private pre-schools, schools;
3. Women Infants and Children (WIC) and Head Start programs;
4. public and private hospitals and medical clinics;
5. pediatricians, obstetricians-gynecologists, and midwives;
6. family planning clinics;
7. local welfare agencies; or
8. licensed childcare centers.

1. The outreach efforts should make use of the information provided in the clearinghouse

Examples of communication vehicles that might be suggested in guidance materials include:

- Development and routine delivery of a joint communication from the PWS (or a group of PWSs) and the City/State to:
    * Health providers (e.g., OBGYNs, pediatricians, midwives)
    * Childhood lead poisoning prevention professionals/organizations
    * Professionals at licensed daycare centers and schools
    * Listservs/organizations for pregnant women/parents of infants (e.g., local listservs, environmental health groups, La Leche League, etc.)
- Delivery of educational materials during any water-related work at customer homes
- When lead-in-water levels at individual homes test above the HAL, delivery of information to a) the residents at the home and b) City/State health departments. These materials ought to cover information prescribed in the current LCR for public outreach during a LAL exceedance as well as:
    * The lead level detected at the specific home
    * What this level means in terms of health risk to vulnerable individuals
    * If the PWS determines that the home has a LSL, information about how to participate in the PWS's proactive, full LSL replacement program.

The LCRWG also recommends that EPA, informed by the advice of the diverse group of experts described above and working with CDC, HHS and HUD, develop guidance (and make it available through the National Clearinghouse) on how to develop and deliver effective communication efforts to caregivers and health care providers focusing on ways those individuals and groups can reach pregnant women, parents of infants and young children and those who care for them. The audience for those materials would be state primacy agencies, state or local health departments, and state or local lead poisoning prevention agencies, as well as PWSs.

To support PWSs in the development of feasible, locally appropriate, and successful public outreach programs targeting vulnerable groups on a routine basis, the LCRWG recommends the following: that the diverse group of experts EPA may convene for the development of consumer-centered public education messaging and materials (see introduction to Section 3.2), also develop guidelines and best practices that PWSs can use to create proactive risk communication programs. Echoing extant principles and understandings of effective risk communication,[8] we imagine such programs to involve robust collaboration between PWSs, many of the local public health agencies and organizations listed above, as well as local childhood lead poisoning prevention groups (State-funded and grassroots), environmental health organizations, and key community leaders (e.g., advisory neighborhood commissioners).

Education of public health and health care providers on lead and water issues

The LCRWG had extensive discussions about the frustration that members of the group had that many in the public health community minimized the risk of lead exposure from drinking water, placed a lower priority on actions to reduce that risk, and frequently provided incomplete or conflicting information to members of the public or patients. This made and continues to make the work of water professionals in motivating appropriate action by customers more difficult. Those in the health sector are highly regarded, and viewed as knowledgeable about all health related topics. Customers will look to them for advice and to validate what they hear from their water provider. Efforts by water systems to reach out to their customers must be appropriately re-enforced by those in the health sector if those efforts are to be successful.

The LCRWG recommends that EPA, CDC, HHS and HUD conduct training and outreach to local health agencies, medical professionals and local and state lead poisoning prevention agencies on:

1. Information about lead in drinking water (its sources, variable and erratic release, and wide range of lead concentrations)

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[8] Lundgren, R. E. and A. H. McMakin. 2013. *Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*. Hoboken, NJ: John Wiley & Sons, Inc.
Risk Communication in Action, http://nepis.epa.gov/Adobe/PDF/60000I2U.pdf
Communicating about Lead Service Lines,
http://www.awwa.org/Portals/0/files/resources/publicaffairs/pdfs/FINALeadServiceLineCommGuide.pdf

Strategies to Obtain Customer Acceptance of Complete Lead Service Line Replacement,
http://www.awwa.org/Portals/0/files/legreg/documents/StrategiesforLSLs.pdf

National Conversation on Public Health and Chemical Exposures: Education and Communication Work Group Report, http://www.utmb.edu/cet/downloads/Natl_Conv_Edu_Comm_WorkGroup%20Report.pdf

Advancing Collaborations for Water-Related Health Risk Communication,
http://www.waterrf.org/PublicReportLibrary/91145.pdf.

2. Information about exposures routes of lead in drinking water to different vulnerable populations, including pregnant women, infants and young children
3. Information about lead service lines
4. Information about the LCR's shared responsibility regime between water system and customer
5. Actions that PWSs typically take to minimize lead in drinking water
6. Steps consumers can take to reduce exposure to lead in drinking water, including removal of LSLs
7. Phone numbers and online links for additional information (including a link to EPA's online National Clearinghouse)

The LCRWG also recommends that EPA work with CDC to incorporate in the CDC's website, educational materials, and materials used by CDC-funded childhood lead poisoning prevention programs nationwide, accurate and up-to-date information about lead in drinking water (its sources, variable and erratic release, wide range of lead concentrations, chronic and acute health risks, the LCR's shared responsibility regime, steps to prevent exposure).

3.2.6 Public Education Compliance

3.2.6.a Compliance for New Customer Outreach

Violations:

- Failure to provide information to new customers

3.2.6.b Compliance for CCR

Recordkeeping, reporting and violations: Same as in the current CCR rule, with updated content.

3.2.6.c PE Compliance for Public Access to Information

PWS must provide the public access to information about:

- Number of samples over the Household Action Level, median, 90th percentile, and highest level found in the last monitoring period
- CCT treatment, approved WQP ranges and WQP results from the last monitoring period

Violations:

- Failure to make this information available to the public

3.3 Improve Corrosion Control

Corrosion Control Treatment (CCT) involves the addition of chemicals (e.g. orthophosphates or silicate) to create a barrier between the pipes and the drinking water, or to modify drinking water chemistry (such as pH and hardness) to inhibit the potential for corrosion. The concept is to manage the treatment system to reduce corrosion (and, thus, the release of metals such as lead and copper) from the distribution system and premise plumbing.

Under the current LCR, PWSs serving more than 50,000 people were required to work with their primacy agency (typically the state) from 1994 to 1997 to designate and install optimal corrosion control treatment. Systems serving 50,000 people or less must optimize corrosion control treatment only if the

results of lead and copper tap sample exceed the action levels. A PWS exceeds the lead AL if ten percent or more of the tap samples collected are greater than the 15 ppb action level.

In evaluating CCT choices, a PWS must consider list of assessment parameters; and, as part of the approval of a PWS CCT plan, the state also approves a shorter list of process control parameters applicable to that system to demonstrate that the selected treatment is being properly operated over time. For purposes of this report, the term water quality parameters (WQPs) applies to these latter process control measures. Recommendations concerning WQPs are included in Section 3.4.

Based on the experience with current LCR requirements provided to this work group and shared by work group members, the LCRWG has concluded the following:

- CCT remains an important component of the LCR, in that it is intended to achieve a water quality that minimizes dissolution of lead and copper in water.
- Effective CCT varies based on the specific conditions from system to system. Increased knowledge about CCT since promulgation of the current LCR, if applied today, could lead to improvements in CCT in some systems. Thus, PWSs and their primacy agency should apply the most current science, tailored to the unique circumstances of each system, to the choice of treatment plan and its associated water quality parameters. A variety of factors affect the dissolution of lead in water, including but not limited to pH and alkalinity. Factors other than the stability of designated WQPs can include, among others, the formation/dissolution of protective scales; the presence of manganese, iron, chlorides, sulfates, aluminum and other materials; and temperature. Variations in water quality also can occur within the distribution system. These water quality conditions vary among PWSs, which in turn affect the CCT choices a PWS must make in the context of other regulatory requirements.
- Lead also occurs in different forms in plumbing systems, from soluble to insoluble and particulate in nature. Sources of lead vary from the very common leaded solder and brass fixtures/valves, to LSLs, and to less common lead-lined iron pipe. CCT is more effective in reducing exposure to soluble lead than it is for particulate lead, although CCT that contributes to the formation of certain scales may also provide benefits in reducing exposure to particulates. Thus, while very important, CCT is not the only lead control mechanism that a PWS must have in place. In other words, CCT should not be relied upon by itself to control lead in water. Rather, it should be one of a tool box of other required mechanisms depending on a PWS's particular conditions and lead sources (e.g. LSLs, leaded solder, leaded brass, etc.). These tools are described in other sections of this report and include: LSL replacement (as well as the replacement of other less common sources of lead such as lead-lined iron pipe), current and future use of lead-free materials, stronger public education including targeted public education to vulnerable populations (pregnant women and families with infants and young children), availability of certified POU filters, instructions on how to flush plumbing systems when lead could be disturbed, etc.

3.3.1 Corrosion Control Recommendations

The LCRWG recommends that:

- EPA release a revised CCT guidance manual as soon as possible and update this manual every six years, so that PWSs and primacy agencies can take advantage of improvements in the science;
- EPA provide increased expert assistance on CCT to PWSs and primacy agencies;
- The LCR continue to require re-evaluation of CCT when a PWS makes a change in treatment or source water;

- The LCR continue to require WQP monitoring to ensure that the CCT is achieving the treatment objectives and that EPA consider requiring such monitoring on a more frequent basis with additional guidance on process control methods; and
- Large systems review their existing CCT plan in light of current science in a newly revised guidance manual with their primacy agency to determine whether the WQPs reflect the best available current science. The LCRWG suggests that this review be done every six years following EPA's six year rule review cycle, and subject to there being sufficient science change that EPA updated the guidance manual. EPA should plan to review and refresh Agency guidance every 6 years, subject to significant improvement in the state of knowledge, to allow research to inform rule implementation. In addition, regularly revised guidance would help states and systems stay current with corrosion control science as they respond to problem situations, but more importantly help them anticipate challenges as new water sources and treatments are brought on line, or they contemplate further refinement to corrosion control. Small and medium sized systems should work with their primacy agency to determine whether updates to CCT guidance is applicable to them.

3.3.2 Corrosion Control Compliance

PWS must maintain records that it reviewed new EPA guidance manuals and assessed whether and, if so, what changes to CCT are applicable, based on the current state of the science.

Violations:
- Failure to notify and consult with primacy agency on re-evaluating CCT if the PWS makes a change in treatment or source water
- Failure to review CCT when EPA updates the guidance manual (for large systems)
- Failure to act if state notifies them that they should assess CCT or make adjustments, based on state review of guidance manual (for medium and small systems)

3.4 Modify Monitoring Requirements

Under the current LCR, a PWS is required to conduct monitoring to assess the effectiveness of its corrosion control treatment (CCT) and trigger additional actions to reduce exposure when necessary. Water systems must compare sampling results to an Action Level (AL). The AL for lead is 15 µg/L and the AL for copper is 1.3 mg/L. In the Lead and Copper Rule (LCR), water systems must prioritize sample site locations (often residences) within the distribution system which are at a high-risk of elevated lead and/or copper in the water. Selection and use of these elevated lead and copper sites enables a smaller number of sample sites than random or geographic site selection procedures.

Implementation of this approach over time has revealed numerous challenges. Recruitment of customers to take in-home samples can be difficult and costly. Customers are not professional samplers and, thus, may implement the sampling protocols inconsistently. Research on sampling protocols also has shown that sampling results may vary, and not necessarily consistently, based on the configuration and length of lines from the water main to the sampling tap and whether the sample is a first draw or a subsequent sample intended to reflect water that had been in a LSL for some time.

The LCRWG recommends two types of on-going monitoring: 1) a more robust WQP monitoring program to improve process controls for CCT, and 2) voluntary customer initiated tap water sampling coupled with a more robust and targeted public education program to encourage sampling, in part to provide direct

information to consumers that they can use to reduce potential exposures to lead from drinking water in their home and to provide ongoing information to the PWS to identify and correct unanticipated problems.

The LCRWG also recommends that EPA establish criteria for a PWS to transition from the current rule framework into the new rule framework. The LCRWG recommends that the transition includes a condition that a PWS must comply with the requirements of the current LCR until the PWS has achieved three rounds of monitoring results under the lead AL using the current LCR requirements. Results from past rounds of monitoring can be used or new data will be required if prior data are above the AL. At that point, the PWS can define their CCT or WQPs for the new rule as that which was used to achieve this record. The existing lead AL should be redefined as a System Action Level in the new rule wherein it will be used when determining re-optimization, e.g. for use during a review of a new source or treatment, if the state determines that additional utility tap sampling is warranted. In other words, it will provide a baseline target for confirming CCT if lead sampling is chosen as one means by which to determine CCT. PWSs must continue to demonstrate that they are maintaining the WQPs used to establish the transitions. All systems, regardless of their lead AL status, should be required to transition to the new LSL replacement program and public education program requirements of the revised LCR as of the effective date of the new rule.

3.4.1 Water Quality Parameter Monitoring

As noted above, WQP monitoring is distinguished from the more extensive list of parameters that a water system would consider as it evaluates corrosion control technology choices. WQPs for the purpose of this section involve the on-going process control monitoring that demonstrates that the selected treatment is being properly operated over time.

The WQP program recommended below builds on what is in the current rule by recommending:

1) more frequent monitoring than currently required and monitoring that is representative of the distribution system (e.g. at points currently used for DBP monitoring or at a subset of points used for TCR monitoring) to capture currently undetected variability;
2) continuing to tailor WQPs to the individual PWS CCT plan and asking EPA to review and consider adding to the list of WQPs referenced in the LCR, based on EPA's anticipated revision to the CCT guidance manual;
3) that WQP monitoring be periodically revisited based on the advancing science as documented in research reports and disseminated through periodically revised EPA guidance manuals; and
4) that a more rigorous data review process such as control charting and similar process control techniques be used to take advantage of the collected data to improve the consistency of operation, encourage fine-tuning of processes, reduce variability of water quality within the distribution system and detect and manage excursions.

In addition, these data should be reviewed whenever there is a change in source or treatment (see 4.3 above); and, when a system or state primacy agency sees significant changes in WQP data, it should initiate a "find and fix" process, looking for what changed and why, and requiring the PWS make any needed adjustments or corrections. This provides one type of reality check and correction not explicitly in the current LCR.

In addition, the LCRWG recommends that systems which are not currently practicing CCT under the LCR but have been under the lead action level by virtue of either naturally non-aggressive source water or by virtue of other aspects of treatment in use, be required to conduct a WQP monitoring program to

continue to demonstrate that the characteristics which caused them to be non-corrosive are continuing to be in place.

3.4.2 Tap Sampling for Lead

The LCRWG also recommends that a voluntary customer-initiated sampling program based on the more robust and targeted public education efforts being recommended elsewhere in this report be substituted for the current LCR tap sampling requirements. .

The results of the voluntary tap sampling program will be used for three separate purposes:

- informing and empowering individual households to take action to reduce risk,
- reporting to health officials when monitoring results exceed a "household action level" (see section 3.5) and
- ongoing information to the utility to assess effectiveness of CCT.

Information for Households

Data from customer-initiated sampling will be valuable in informing and empowering individual households and thus provide greater customer service. All data provided to customers would need to include appropriate information about the variability of lead levels, that a single sample does not represent all water quality, and that levels at a particular tap at a particular time might be higher or lower. The transmittal should also provide appropriate information about the risks of lead exposure, sensitive populations, and actions the consumer can take to minimize risk.

This type of sampling is currently discouraged by the current rule because water systems are often concerned that "complaint" or "customer " samples would be included into the required 90th percentile calculation with potential mandatory response actions if it exceeded the action level. This resulted in system not offering sampling or having the samples be analyzed through a private lab (and therefore the data would not be available for any utility management or regulatory purpose). Currently, PWSs are mandated to return to the same locations which, while it may have value for other reasons, means that many other households do not get the opportunity to understand their lead exposure. Voluntary customer-initiated sampling can also capture data from multi-family residences, which is not included in the mandatory LCR sampling in most cases. A new approach could achieve greater customer service and more data to understand and manage lead corrosion.

Outreach to encourage customers to sample will likely involve many different customer contact opportunities including the CCR, outreach related to having a LSL, outreach related to construction contracts, new customer contact, community meetings, other educational outreach efforts, and whenever a customer contacts the CWS for a water quality question or complaint.

Customers should be given the opportunity to determine the type of information they are interested in, thus should be offered a menu of sampling protocols, e,g. a random daytime sample to determine typical exposure levels, first draw to determine the effects of a brass faucet, or a timed or temperature determined sample from within a service line. The National Clearinghouse should include templates with instructions for each type of sample.

Information for Public Health Officials

Data from customer samples which exceeded the "household action level" recommended in section 3.5, would be required to be forwarded to health officials. While LCR tap water results are currently provided to the collecting household, the LCR does not require any action for individual high samples, and there is

no mandate to refer to health authorities. While the LCR cannot guarantee actions by health departments, this recommendation provides direct health intervention in those cases where sampling indicates high lead levels.

Information for Assessing the Effectiveness of CCT

The third use of the customer tap sampling data is to provide on-going information to the utility of potential changes in the effectiveness of CCT. Under the current rule, most systems are sampling for one four-month period every three years. Any changes or variability in lead levels at the tap during the other 32 months of that period are missed. Under this proposal, it is anticipated that there would be a more regular stream of data from more locations, providing information which can be used to understand system performance. The data would be provided to the state primacy agency and presented as time series data to facilitate identifying any changes in the data over time. Small systems might report the data on something as simple as a spreadsheet chart, while larger systems might use more sophisticated analytical methods to understand and use the data.

Unexpected or unexplained changes in the tap sampling data can be used in a "find and fix" approach to identify and respond to potential problems. This could be system initiated or in response to periodic review of the system data by the primacy agency, such as during a sanitary survey. This provides a reality check on whether something unexpected is happening within the distribution system, even though consistent treatment was maintained. The more robust (in both temporal and geographic distribution) of the customer sample data set provides a more powerful check on treatment than the current episodic sampling does.

Specifically the LCRWG recommends that the revised rule require that:

- any customer sampling data be reported to the state on a routine basis and include which of the menu of sampling protocols referenced above was used;
- data be provided as soon as possible and no later than within 30 days to the customer and, if over the household action level, to the health department (as discussed above and in section 3.5);
- the PWS maintain the data set for analysis and review, taking type and location of each sample into consideration, to identify trends and changes in the data;
- the data be available for public review as described in section 3.2.4;
- the PWS and the state review the data and trend analysis during sanitary surveys;
- annually, at the discretion of the primacy agency, the PWS provide the primacy agency with a data summary report of the three most recent years of all tap sampling data, the specific details of which should be determined by EPA;
- if the three most recent years of customer sampling data show that the 90th percentile (running three-year calculation) is above the System Action Level, then the PWS must analyze any changes or trends in the data to evaluate whether they are based on system-wide, local , or household-based conditions, and provide the report and analysis to the state for their review and determination if additional analysis, re-evaluation of CCT, or other actions such as household-based actions (LSL removal, education about lead-free faucets and flushing after non-use of water, etc.) are appropriate.
- if the system makes any source or treatment changes, the PWS and state should use the customer sampling data in the consultation, review and approval by the State currently required by the LCR.

The LCRWG also recommends that EPA provide guidance to states and PWSs on additional forms and types of data analyses which can be conducted on sampling data to provide more detailed understanding

of trends and to support system decision making on customer actions, treatment evaluations or development of system plans and priorities for LSL replacement programs.

It seems appropriate to include some sort of floor to the number of customer samples. Some members of the group suggested that systems should be required to collect no fewer samples in a three year period than they would under the current three-year reduced monitoring requirement.

When a system changes its source or treatment, and is required to consult with the state, the state primacy agency also may choose to require additional one-time monitoring to evaluate those changes if the degree of the change warrants.

Some members suggested that some small systems might want the opportunity to maintain the current home tap water monitoring program. The revised LCR should allow this, while not discouraging customer sampling.

3.4.3 Sample Invalidation Criteria

Under the existing regulation (141.86 (f)(1)), "The State may invalidate a lead or copper tap water sample if at least one of the following conditions is met.

(i) The laboratory establishes that improper sample analysis caused erroneous results.
(ii) The State determines that the sample was taken from a site that did not meet the site selection criteria of this section.
(iii) The sample container was damaged in transit.
(iv) There is substantial reason to believe that the sample was subject to tampering."

These are all good and necessary reasons for invalidating a sample and should be retained, but because this list is limited, samples must be accepted that are obvious "outliers" and don't represent the water that is normally consumed and should not be used as a basis for treatment changes or public education. This is especially true for small systems where the limited number of samples required means that a single, unusually high, value can cause the Action Level to be exceeded. This could lead to installation of expensive treatment when treatment is not needed or adequate corrosion control is already being provided. While probably not as frequent, non-representative samples could also cause water systems to be below the action level when treatment changes really are needed. Good invalidation criteria can help states address both problems.

The purpose of the invalidation is to make sure that decisions are based on the most representative set of samples possible and to do so through a process that provides adequate information to make good invalidation decisions and assures documentation of the reasoning behind the invalidation.

The following is a proposal from states that will serve those two functions.

States believe that the essential criteria for invalidation are already well stated in the Revised LCR Monitoring and Reporting Guidance (EPA 816-R-10-004, March 2010) or the October 2006 memorandum on Management of Aerators During Collection of Tap Samples to Comply with the Lead and Copper Rule. The LCRWG recommends that EPA take the following into account when revising the proposed rule and expand the invalidation criteria accordingly:

- Make sure the sample is taken at a tap that is used regularly, and not an abandoned or infrequently used tap."
- "If first-draw samples are collected at single-family residences, the sample must always be drawn from the cold-water kitchen tap or bathroom tap."

- "If first-draw samples are collected from buildings other than single-family homes, the sample must always be drawn from an interior tap from which water is typically taken for consumption."
- "Public water systems should not recommend that customers remove or clean aerators prior to or during the collection of tap samples for lead."

3.4.4. Monitoring Compliance

PWS must monitor and report based on water quality parameters and schedule set by state primacy agency, and use the data for on-going treatment process control (3.4.1)

Violations:
- Failure to monitor as per schedule
- Failure to maintain data, and use in process monitoring (to be evaluated by state during sanitary survey inspections or as state primacy agency requests)
- Failure to report data to state
- Monitoring results outside the WQP range established in the PWSs CCT plan along lines similar to current rule requirements

PWS also must include an offer to customers in all LCR related outreach to collect a sample, including in all LSL outreach efforts. PWS must also:
- collect sufficient number of samples, either by customer request or utility initiated sampling, i.e. no fewer samples in a three year period than under the current three-year reduced monitoring requirement, assuming the PWS qualifies for such reduced monitoring;
- promptly report the data to the customer, the state and local PH (if above health action level); and
- use the data as part of on-going evaluation of CCT performance, monitoring for changes in lead levels at the tap over time, geographic trends in levels, and interaction with distribution system water quality.

Violations:
- Failure to offer to sample
- Failure to collect minimum number of required samples within 3-year window
- Failure to report data to:
  - Household
  - State
  - Local public health agency (if above household action level) no later than 30 days after the result was received
- Failure to provide rule-required information in sampling offer materials, or in household reporting of the data
- Failure to use household tap sampling data in on-going evaluation of CCT and maintain record of having done so, (as determined by state during sanitary survey inspections or as state primacy agency requests)

3.5 Establish a Household Action Level

The current lead action level is based on the 90th percentile of the collected samples. Without a maximum limit, some users may be exposed to levels of lead in the drinking water that presents a potentially significant health threat, especially to children, without exceeding the action level.[9] If the levels are high enough and state and local authorities do not act, EPA could determine that the levels pose "an imminent and substantial endangerment to the health of persons" pursuant to section 1431 of the Safe Drinking Water Act. (40 USC 300i)

3.5.1 Household Action Level Recommendations

To avoid the possible need to invoke section 1431 of the SDWA, the LCRWG recommends that EPA establish in a revised rule a "household action level" and require the PWS to notify the local health department and state drinking water authority of sample results over that level. The requirement would be triggered by any sample results that the PWS receives from a user or from its own monitoring. However, the PWS would not be required to make the notification until it has investigated the sample in a timely manner to eliminate sampling or assay errors.

The existing rule already requires the PWS to notify residents of the results of water system conducted lead sampling. We would anticipate that the PWS would alert the resident to possibility that the health department may be notified when the sample was taken or the resident provided the PWS with the sample results. While this notice may have the unintended consequence of discouraging some customers from testing, it is important for the customer to make an informed choice.

In response to the notification, the PWS and the health department would consider the situation and take action that they deem appropriate (e.g., testing children's blood, recommending a filter, discussing lead service line replacement with the resident or landlord, advising grandparents about risk to visiting children, or continuing to monitor the situation). We anticipate that the health department be the lead agency, and that the rule would not prescribe actions other than notice as the situations are too diverse and complicated for prescription actions. The LCRWG encourages EPA to work with the Centers for Disease Control and Prevention on recommended approaches and make this information available through the clearinghouse discussed in section 4.2.

This requirement would be somewhat similar to the regulatory approach taken by the Department of Housing and Urban Development which mandates that public housing authorities notify the local health department within five days when it receives information from any source that a child of less than six years of age living in an assisted dwelling unit may have an environmental intervention blood lead level. (24 CFR 35.1225)

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[9] The LCRWG discussed the relationship between the household action level and the current lead AL (to be renamed the system action level). These levels have two distinct purposes. The LCRWG assumed during its discussions that the household action level would be significantly greater than the system action level. It recognized, therefore that, depending on what level is set, the household action level may have impacts on other recommendations in this report.

We recommend that EPA set the household action level based on the amount it would take for an infant to have a blood lead level greater than five micrograms per deciliter (µg/dL) based on consumption by an average, healthy infant of infant formula made with water. When a child's blood lead level exceeds five µg/dL, the Centers for Disease Control and Prevention (CDC) recommends that laboratories and health care providers notify local and state health departments and that action be taken to identify and prevent further exposure.[10]

3.5.2 Household Action Level Compliance

If household sample exceeds the household action level, PWS must promptly notify the household and the local public health agency; certify that this has been done, and maintain records of having done so.

Violations:

- Failure to report data no later than 30 days after the result was received, to
  - Household
  - Local public health agency
- Failure to certify to state that data was reported to the household and to the local public health agency within 30 days
- Failure to maintain records of correspondence between PWS and the local public health agency,

3.6 Establish Separate Monitoring Requirements for Copper

The current LCR does not deal effectively with copper. Generally speaking, the current rule focuses on the health benefits associated with lead risk reduction, with the result that the currently required in-home sampling is often done in locations with old copper that has passivated. Thus, the possibility may be missed that a system's water chemistry could result in copper releases. Further, the current rule does not require public education for copper, which can have broad benefits.

The LCRWG has concluded that the regulatory approach should separate lead and copper risk management, refocusing attention to where there may be a problem with copper without increasing the burden on systems where there is not a problem. This can be achieved in a cost effective manner by targeting copper monitoring requirements to those PWSs where there may be exposures.[11]

Elevated exposures to copper generally result from new copper plumbing[12] where water chemistry is aggressive to copper. It is technically possible to identify water chemistries that are aggressive versus not aggressive to copper. Thus, the LCRWG recommends that the requirements for copper monitoring focus first on sampling for basic finished water quality parameters such as pH, alkalinity, and orthophosphate in a way that is representative of the distribution system to identify waters that are aggressive to copper. Systems that can demonstrate that their finished waters are not aggressive to copper or that their

[10] http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm

[11] The LCRWG recommends this approach, assuming EPA determines that the health benefits of regulating copper justify the costs. A full health risk assessment for copper was beyond the scope of the LCRWG's charge, however; and, thus, EPA's analysis of whether benefits justify the costs may have implications for these recommendations.

[12] New copper is generally understood to be between six months to three years of use.

distribution systems contain no copper should have no further copper monitoring requirements. This could be written into the rule, rather than require a monitoring "waiver."

3.6.1 Copper Recommendations

Further, the LCRWG recommends that the LCR be revised based on the following concepts:

1. Instead of basing action on the results of routine, in-home copper sampling, actions should be based on the aggressiveness of the water to copper. Systems can determine if their water is aggressive to copper by doing WQP monitoring in the distribution system. All PWSs should be assumed to have water that is aggressive to copper unless they demonstrate that it isn't.

2. EPA should develop criteria to define water that is not aggressive to copper for the purpose of establishing whether a system falls into that category (or "bin") for the purposes of the LCR. EPA should consider the accuracy and potential variability of pH and alkalinity monitoring as well as corrosivity to copper in establishing pH and alkalinity ranges. The criteria also should include consideration of passivation time. Examples of bins (for verification by EPA) would be:

    a. if alkalinity is < 35 pH must be > 7.0 (no upper pH limit)
    b. if alkalinity is 36 to 100, pH must be > 7.2
    c. if alkalinity is 101 to 150 , pH must be > 7.5
    d. if alkalinity is 151-250 , pH must be > 8

If orthophosphate is used, examples of bins would be:

    a. if alkalinity <150, PO4 must be >1 mg/L
    b. if alkalinity is 150 to 200, PO4 must be > 2 mg/L
    c. if alkalinity is 200 to 240, PO4 must be > 3 mg/L
    d. if alkalinity is greater than 240, PO4 must be > 3.3 mg/L

3. PWSs can choose one of several approaches to demonstrate that their water is not aggressive to copper:
    a. Conduct water quality parameter monitoring to assess whether their water meets the definition established by EPA.
    b. Conduct a one-time evaluation with copper sampling at vulnerable houses (houses < 2 years old with new copper plumbing) to demonstrate that water chemistry is non-aggressive (copper levels fall under the AL/SMCL). EPA may want to consider:
        i. Limited number of sample sites needed given copper chemistry
        ii. Provision for sample invalidation based on site-specific conditions such as biologically-induced corrosion.
    c. Conduct a pipe loop study to demonstrate the water chemistry is non-aggressive
    d. Change water chemistry to within the range established for non-aggressive water quality
4. PWSs with water **classified as non-aggressive to copper** must continue to demonstrate that the water is non-aggressive. PWS's can choose to:
    a. Maintain those WQPs that demonstrate it maintains non-aggressive water under (2) above, or

b. Conduct copper sampling at vulnerable houses (houses < 2 years old with new copper plumbing) to demonstrate that water chemistry is non-aggressive (copper levels fall under the AL/SMCL)

PWSs that are not able to maintain their WQPs must implement a public education program as described in the next section.

5. PWS's with water **classified as aggressive to copper** must initiate and maintain a public education program. The public education program must either provide:

   a. Information to all new homes (new construction or change of service) upon initiation of new service

   AND

   b.

   i. Information to newly renovated homes at time of renovation

   OR

   ii. Information to all customers on a routine basis

   In addition, in guidance, EPA should encourage PWSs to notify contractors, plumbing suppliers, and plumbers of copper corrosivity and to work with relevant officials and organizations to consider building and plumbing code changes that would prohibit copper piping in new construction if the corrosive water conditions cannot be eliminated. EPA also should provide guidance and/or templates, particularly for small systems, for public education messages and modes of delivery.

6. EPA should consider whether or under what circumstances CCT should be required for a PWS **classified as aggressive to copper** Not all systems with water aggressive to copper necessarily will have homes with new copper, so treatment might not be necessary or perhaps even advisable, particularly for small systems that can control plumbing materials used or for systems in communities that modify their plumbing codes. Passivation time of copper varies considerably, and CCT may not be necessary or advisable when passivation time is short if interim actions to protect public health other than CCT are feasible. In determining when CCT should be required and any associated monitoring requirements, EPA also should take into consideration that a PWS may not have access to information about renovations where new copper has been installed and, even when such information is available, can't control whether the customer will participate in a monitoring program. Setting the correct level and establishing a regulatory approach that triggers CCT only when necessary will require a complex assessment and is beyond the scope of this workgroup.

7. In the revised LCR, systems should continue to be required to notify the primacy agency if they are making any long-term treatment change or addition of a new source. This section of the rule should be made clear that for copper, the system may be required to demonstrate that its finished water continues to be non-aggressive to copper (per 4 above).

8. Additional information needs to be gathered on the current distribution of pH, alkalinity, and phosphate residual among systems nationally to fully understand the implications of this approach.

3.6.2 Copper Compliance

Violations:

- Failure to implement public education, for PWSs that have not demonstrated their water chemistry is not aggressive to copper.
- Failure to maintain a monitoring program representative of the distribution system that demonstrates the system has water chemistry not aggressive to copper.
- Failure to provide notice to and, if required, consultation with the primacy agency, when a PWS makes a significant change in source or treatment (as in the current LCR).
- Failure to implement CCT or other risk reduction actions prior to CCT as determined by the primacy agency.

4 Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water

The LCRWG urges EPA not only to promulgate a revised LCR, but also to play a leadership role in educating, motivating, and supporting the work of other agencies, where EPA does not have the authority to act. The LTR LCR is very important. However, removing lead from drinking water systems and reducing exposure to lead from drinking water in the meantime will require renewed commitment, cooperation and effort by government at all levels and by the general public.

Specific recommendations for action in addition to the LTR LCR include (grouped generally by who might take such actions):

EPA Actions

- EPA working across all offices to take an integrated approach to action and education on lead from all sources (paint, air, site clean–up, etc.), with proper emphasis on lead in drinking water, especially in relation to the populations most vulnerable to this source (pregnant women, infants and young children). For example, OGWDW should coordinate with EPA's lead-based paint program so lead hazards are communicated consistently.
- Work with other federal agencies including HUD in terms of lead programs including but not limited to expanding federal funding from those programs to include lead service line replacement; HUD/DOT in terms of efficiency in possible coordination of lead service line replacement with road projects and other construction projects; and CDC in terms of childhood lead poisoning prevention, screening, and protection programs
- Enhanced cooperation with state, county, and local health departments to promote an integrated approach to childhood lead poisoning screening, prevention, and protection that emphasizes drinking water and its potential as a primary lead source (e.g. infants dependent on reconstituted formula).
- EPA needs to work with agencies at all levels of government to support financial assistance programs for LSL removal. Building costs into a PWS's capital budget planning should also be a consideration.
- EPA should include diverse perspectives in its stakeholder engagement programs, including affected consumers (who should not be required to be members of formal organizations), lead poisoning prevention/clean water advocates, EJ advocates, lead/copper corrosion experts, and

representatives from PWSs, States, and federal agencies with Healthy Homes and childhood lead poisoning prevention programs.

Other Federal Actions

- A federal tax deduction to support replacement of the customer portion of LSLs.
- EPA should work with CDC and HHS to ensure that the standard protocol for investigation of any child with elevated blood lead levels or of a home with lead levels above the HAL include determination of whether there is a lead service line.
- EPA should work with HHS and HUD to modify funding guidelines for the Healthy Homes and other federal funding programs to explicitly authorize and prioritize the use of those funds for lead service line removal programs targeting the privately owned portion of any lead service line. The current situation of having tens of thousands of dollars spent by a local Healthy Home or lead poisoning prevention program to remove lead paint, and leave behind a lead service line because of arbitrary funding guidelines is unacceptable.

State or Local Actions

- Local or state building and plumbing codes, including possibility of prohibiting copper plumbing where water is aggressive to copper.
- State Actions to support customer lead service line replacement, e.g.
    - State legislation requiring inspection or replacement on sale of home
    - Disclosure requirements at sale of home
    - Requirements for LSL removal as part of school and day care licensing
    - Building code requirements for LSL removal upon substantial renovation (could be national action as well)
    - Priority in DWSRF funding, especially if increased funding is available. (Criteria states might wish to consider include: PWSs where there is a high incidence of elevated BLLs for children, a high percentage of homes with LSLs, a high percentage of low income families, the PWSs prior efforts to replace LSLs, etc)[13]
- States should consider including requirements for lead in drinking water in state child care licensing rules.

Public Water System Actions

- Options EPA may want to describe in guidance and PWSs could consider include but are not limited to:
    a. Rate design considerations:
        i. Low rates for low volumes
        ii. Household size-based rates

[13] Good examples of programs which facilitate and enable private action include a Massachusetts program which provides a state income tax credit for the replacement of failing private wastewater treatment systems (septic tanks and leaching fields) coupled with a requirement for inspection and compliance with stricter rules upon property transfer; and many local housing rehabilitations programs funded by Federal Community Development Block Grants (CDBG) which provide low or no interest loans for health and safety related improvements, payable upon property transfer, often with loan sunsets where repayment is not required or the balance is reduced over a period of continued occupancy by an income-eligible homeowner. A similar loan program could be authorized by EPA under the Drinking Water SRF program.

b. Non-rate policies
    i. Budget billing
    ii. Fixture retrofits and plumbing assistance by the PWS
    iii. Service line replacement and insurance programs not provided by PWS
    iv. Direct assistance, emergency bill payment relationships
    v. Fixture retrofits and plumbing assistance by NGO organizations providing affordable housing
    vi. Subsidies including LSL / connection replacement costs associated with street, sidewalk, and other repairs not related to drinking water infrastructure
    vii. On-bill financing provided by the PWS
c. Funding guidance
    i. EPA's Financing for Environmental Compliance – Water
    ii. Tools for Financing Water Infrastructure
d. Funding sources beyond rate revenue:
    i. EPA's Drinking Water State Revolving Fund (DWSLF)
    ii. EPA Targeted Grants to Reduce Childhood Lead Poisoning
    iii. USDA's Water and Environmental Programs, U.S. Department of Agriculture, Rural Development
    iv. HUD's Community Development Block Grant Program – U.S. Department of Housing and Urban Development
    v. HUD Healthy Homes Technical Studies
    vi. HUD Office Healthy Homes and Lead Hazard Control Lead Hazard Reduction Demonstration Program
    vii. HUD Health Homes Initiative Lead Elimination Action Program
    viii. HUD Office of Healthy Homes and Lead Hazard Control Lead Hazard Control Lead Technical Studies Grant Program

- PWSs should educate and encourage partnerships with healthcare providers and health departments even when levels are below the AL.

<u>Research</u>

- Additional technical review and/or additional study is needed on how to conduct household and service line flushing to remove particulate lead.
- Published, peer reviewed research explaining that water in plumbing systems with leaded materials and LSLs can have sufficient levels of lead in the water to be a risk to those consuming the water. This paper is important to gaining support from the public health agencies and others and to placing water in context with other sources of lead.
- Considering that lead remains a complex issue and that research and information gaps still exist, the EPA should establish a Research and Information Collection Partnership to encourage the filling of these gaps in knowledge. The RICP should be initiated once the EPA begins working on the revised rule and continue for three years or more into the promulgation of the revised rule.
- The EPA and other agencies, such as the Water Research Foundation, should conduct research (such as bench scale and limited system case studies) to confirm the bins selected to define aggressive waters for copper. The bins are based on theory and need some level of confirmation prior to promulgating an actual regulation. This work can be done within the timeframe of developing a final rule.

5 Conclusion

The LCRWG appreciates the opportunity to provide these recommendations to the NDWAC, offers our thanks to the experts and members of the public who made presentations to the work group, and wishes particularly to acknowledge EPA for the extensive commitment of staff time and expertise to this process.

ATTACHMENT A

NDWAC Lead and Copper Working Group

Members
Christina Baker: Deputy Public Counsel, Office of the Public Counsel, State of Missouri
Leon Bethune: Director, Office of Environmental Health, Boston Public Health Commission
Gary Burlingame: Director, Bureau of Laboratory Services, Philadelphia Water
Marilyn Christian: Manager, Environmental Health Programs, Harris County Public Health
Matthew Corson: Manager, Environmental Compliance, American Water
Derrick Dennis: Water Quality and Data Management Section Manager, Office of Drinking Water, State of Washington
Stephen Estes-Smargiassi: Director of Planning, Massachusetts Water Resources Authority
Yanna Lambrinidou: Parents for Non-toxic Alternatives *[dissenting]*
Thomas G. Neltner: Environmental Defense Fund
John Sasur Jr.: Three Rivers Fire District, Massachusetts
Robert C. Steidel: Director Department of Public Utilities, City of Richmond Virginia
June Swallow: Chief, Division of Water Quality, Rhode Island Department of Health
Lynn Thorp: National Campaigns Director, Clean Water Action
Chris Wiant: President, Caring for Colorado
Nse Obot Witherspoon: Executive Director, Children's Environmental Health Network

Table 1: Elements of utility reports by dates in three-year cycle (*based on EPA adoption of rule in 2017)											
Action	2020*	2023	2026	2029	2032	2035	2038	2041	2044	2047	2050
Confirm broad and targeted education programs underway[1]	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.
Status of consumer sampling[2]	NA	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered
Confirm communication of sampling results[3]	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.
Confirm operation policies in place[4]	Yes. If not, then explain	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.
Replacement Progress[5]	Initial Baseline	85% remaining	70% remaining	55% remaining	40% remaining	25% remaining	17% remaining	10% remaining	6% remaining	3% remaining	0% remaining
If replacement goals not met, number of checklist items confirmed completed (See Table 2)[6]	Basic requirements *[see Section 3.1.2]*	Basic requirements	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)

[1] See Section 3.1.2 (item 4 "targeted outreach" EPA to provide a checklist; PWS to contact customers with LSLs individually at least every three years and when there is a new customer at that address.

[2] Number of customers offered opportunity to conduct at-tap samples and number of samples taken.

Confirmation that results were provided to the customer. Number exceeding the household action level and confirmation that the results were submitted to health department. Maintain records for review by the primacy agency.

[4] Program to ensure that emergency, maintenance and renovation operations consider risks of disruption to service line increasing lead exposure to residents. .See Section 3.1.2 item 7 (operations).

[5] A service line is presumed lead unless installed after date installation of lead service line prohibited or records or tests by utility confirm entire service line is not lead. Confirming that a service line is not lead counts toward replacement progress.

[6] This is a two-fold concept, the details of which the LCRWG suggests be determined by EPA: 1) provide the PWS the flexibility to select outreach methods and other efforts appropriate to that community and 2) increase the number of required efforts to be completed if replacement goals are not met. See Table 2 for checklist of options for additional effort (in addition to the basic outreach requirements).

Table 2 Options (in addition to the basic outreach requirements) to be accomplished by utility if replacement progress goals in Table 1 not met.[1]		
Basic outreach requirements: • Individually notify customers with known or possible LSLs describing the risks of lead in drinking water, specifically inviting them to participate in the LSLR program, offering to have the customer's tap water analyzed, and clearly describing the terms of the program and how to follow up. If the customer does not respond or chooses not to participate, the PWS must follow up with another invitation at least every three years and always when there is a new customer at that address. (see Section 3.1.2 for additional details) • Provide a written offer to replace the LSL when work is being done on the water main in the street (with the same information above).		
Resident engagement	System policies	Other
1. Notice to new customers of need	1. Plumbing code requires full replacement if service line will be disturbed.	1. Local health agency contact with resident.
2. Written offer to replace when main in street rehabbed (customer pays)	2. Grants or low-interest loan funds identified to cover customer costs sufficient to maintain progress for period.	2. Local health agency funding for removal as part of remediation
3. Written offer to volunteer (customer pays)	3. Financing options such as liens on home provided to customers or tax deductions for property owner costs.	3. Media campaign launched
4. Written refusal from customer(s)	4. MOU or other arrangement to implement notification of customers/property owners by other utilities about replacement options if LSL is disturbed	4. Homeowner association(s) send letters to members supporting replacement.
5. Certified letters sent	5. Capital improvement plans target system pipe rehab and replacement to areas with more LSLs	5. Real estate organizations notified of requirement for replacement of LSL on sale or transfer of title
6. In-person call or visit made	6. Service line insurance program revised to include replacement LSLs if damaged or leaking	6. Cooperative outreach efforts with non-profits
7.	7. More aggressive flushing in areas with LSLs to manage iron related lead particles	7. Coordinated outreach with WIC
8.	8.	8. Outreach to plumbers/contractors
9.	9.	9. Outreach to ob/gyns and pediatricians
10.	10.	10. Local ordinance requiring inspection/notification/replacement of LSLs upon sale or transfer of title
11.	11.	11. LSL identification added to home inspector standard operating procedures
12.	12.	12.
[1] EPA will provide guidance on the options and update them periodically as best practices evolve.		

From: Pallone, Maggie (DEQ)
Sent: Tuesday, September 15, 2015 7:25 PM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Howes, Sarah (DEQ);Wurfel, Brad (DEQ);Busch, Stephen (DEQ);Benzie, Richard (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ)
Subject: Fwd: EPA's response to Rep. Kildee re: Flint water
Attachments: Hon. Daniel Kildee 09-15-15.pdf; ATT00001.htm

Begin forwarded message:

From: "Fortin, Denise" <Fortin.Denise@epa.gov>
Date: September 15, 2015 at 6:28:38 PM EDT
To: "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>
Cc: "Beckmann, Ronna Erin" <beckmann.ronna@epa.gov>, "Deamer, Eileen" <deamer.eileen@epa.gov>
Subject: EPA's response to Rep. Kildee re: Flint water

Here you go, Maggie. I'll be sending this letter to Jordan Dickinson shortly.

Please keep me posted on the location for Monday's meeting.

Thanks,
Denise

Denise Fortin
Congressional Liaison
Office of Regional Administrator
U.S. Environmental Protection Agency
312-886-9859

United States Environmental Protection Agency
Regional Administrator
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

SEP 15 2015

The Honorable Daniel Kildee
Member, U.S. House of Representatives
Washington, D.C. 20515-1313

Dear Congressman Kildee:

Thank you for your September 9, 2015 letter regarding drinking water quality in the City of Flint. EPA is actively working with the Michigan Department of Environmental Quality (MDEQ) to help the City provide clean and safe water.

Consistent with the recommendations in the internal memorandum cited in your letter, EPA is working with MDEQ to monitor Flint's compliance with the federal Lead and Copper Rule. On August 17, 2015, MDEQ notified Flint that additional treatment will be required to optimize corrosion control and the City is taking steps to do so. Experts from EPA's Office of Research and Development are providing technical assistance to Flint to implement those corrosion control improvements.

Flint residents who are concerned about lead in drinking water may request water sampling by the local water utility. General information about lead in drinking water and tips to reduce lead exposure are available at http://water.epa.gov/drink/info/lead/index.cfm

Again, thank you for your letter. We look forward to a more detailed discussion at the meeting that is being set up on Monday. In the meantime, if you have further questions, please contact me or your staff may contact Denise Fortin or Ronna Beckmann, the Region 5 Congressional Liaisons, at (312) 886-3000.

Sincerely,

Susan Hedman
Regional Administrator

Recycled/Recyclable ■ Printed with Vegetable Oil Based Inks on 100% Recycled Paper (100% Post-Consumer)

From: Wyant, Dan (DEQ)
Sent: Wednesday, September 16, 2015 6:40 AM
To: Pallone, Maggie (DEQ);Thelen, Mary Beth (DEQ);Howes, Sarah (DEQ);Wurfel, Brad (DEQ);Busch, Stephen (DEQ);Benzie, Richard (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ)
Subject: RE: EPA's response to Rep. Kildee re: Flint water

Well done.

Dan Wyant, Director
Department of Environmental Quality
517-284-6700 (New Number)

From: Pallone, Maggie (DEQ)
Sent: Tuesday, September 15, 2015 7:25 PM
To: Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Sygo, Jim (DEQ)
Subject: Fwd: EPA's response to Rep. Kildee re: Flint water

Begin forwarded message:

> **From:** "Fortin, Denise" <Fortin.Denise@epa.gov>
> **Date:** September 15, 2015 at 6:28:38 PM EDT
> **To:** "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>
> **Cc:** "Beckmann, Ronna Erin" <beckmann.ronna@epa.gov>, "Deamer, Eileen" <deamer.eileen@epa.gov>
> **Subject: EPA's response to Rep. Kildee re: Flint water**
>
> Here you go, Maggie. I'll be sending this letter to Jordan Dickinson shortly.
>
> Please keep me posted on the location for Monday's meeting.
>
> Thanks,
> Denise
>
> Denise Fortin
> Congressional Liaison
> Office of Regional Administrator
> U.S. Environmental Protection Agency
> 312-886-9859

From: Saxton, Thomas (Treasury)
Sent: Wednesday, September 16, 2015 5:19 PM
To: Muchmore, Dennis (GOV);Khouri, Nick (TREASURY)
Cc: Lyon, Nick (DCH);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Agen, Jarrod (GOV);Clement, Elizabeth (GOV);Hollins, Harvey (GOV);Roberts, John (DTMB);Workman, Wayne (TREASURY)
Subject: Flint
Attachments: Updated Summary of September 15 Conference Call

Attached is the summary (prepared by Wayne's staff) of the call we/Treasury had yesterday with Flint. I would say nothing 'enlightening' really came out of the call.

As indicated they asked about the status of the $30mm request to the Governor. Which coincidently is the ballpark number they are at risk for in the rate lawsuit(s).
We said we did not have an immediate response other than it would likely require an appropriation by the legislature. This would probably lead to similar requests from other urban communities; but, we are still looking at it.

We are not aware of any existing qualifying projects that the City has sought funding for in the SRF-drinking water program. They had asked previously for some funds on the wastewater side but had withdrawn the request because they lacked match funds.

From: Workman, Wayne (TREASURY)
Sent: Wednesday, September 16, 2015 10:40 AM
To: Muchmore, Dennis (GOV) <muchmored@michigan.gov>; Khouri, Nick (TREASURY) <KhouriN@michigan.gov>
Cc: Saxton, Thomas (Treasury) <SaxtonT@michigan.gov>; Lyon, Nick (DCH) <LyonN2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Agen, Jarrod (GOV) <AgenJ@michigan.gov>; Clement, Elizabeth (GOV) <clemente@michigan.gov>; Hollins, Harvey (GOV) <hollinsh@michigan.gov>; Roberts, John (DTMB) <RobertsJ9@michigan.gov>
Subject: RE: Flint

We will have an update later today from our call with the City yesterday.

Wayne L. Workman
Deputy State Treasurer
Michigan Department of Treasury

From: Muchmore, Dennis (GOV)
Sent: Wednesday, September 16, 2015 10:33 AM
To: Khouri, Nick (TREASURY) <KhouriN@michigan.gov>
Cc: Saxton, Thomas (Treasury) <SaxtonT@michigan.gov>; Workman, Wayne (TREASURY) <WorkmanW@michigan.gov>; Lyon, Nick (DCH) <LyonN2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Agen, Jarrod (GOV) <AgenJ@michigan.gov>; Clement, Elizabeth (GOV) <clemente@michigan.gov>; Hollins, Harvey (GOV) <hollinsh@michigan.gov>; Roberts, John (DTMB) <RobertsJ9@michigan.gov>
Subject: RE: Flint

Any additional information on this?

From: Khouri, Nick (TREASURY)
Sent: Tuesday, September 15, 2015 10:01 AM
To: Muchmore, Dennis (GOV) <muchmored@michigan.gov>
Cc: Saxton, Thomas (Treasury) <SaxtonT@michigan.gov>; Workman, Wayne (TREASURY) <WorkmanW@michigan.gov>; Lyon, Nick (DCH) <LyonN2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Agen, Jarrod (GOV) <AgenJ@michigan.gov>; Clement, Elizabeth (GOV) <clemente@michigan.gov>; Hollins, Harvey (GOV) <hollinsh@michigan.gov>; Roberts, John (DTMB) <RobertsJ9@michigan.gov>
Subject: Re: Flint

Tom

Any state or federal subsidized financing available? Something similar in structure to combined sewer overflow?

It's not free money, but a better option

Sent from my iPhone

On Sep 15, 2015, at 9:52 AM, Muchmore, Dennis (GOV) <muchmored@michigan.gov> wrote:

> Nice of Dayne Walling to work with us before he called yesterday to tell me he was going to announce to City Council last night that Flint needs and deserves $30M from the state for upgrades to their water system and a lead abatement program. Any thoughts on this?

From: Cline, Richard (Treasury)
Sent: Wednesday, September 16, 2015 3:13 PM
To: Saxton, Thomas (Treasury);Workman, Wayne (TREASURY)
Cc: Dempkowski, Angela (Treasury)
Subject: Updated Summary of September 15 Conference Call
Attachments: Summary of September 15 Conference Call.docx; Utilities Update 9_16_15-2.pdf

Importance: High

Tom/Wayne:

Attached, per your request, is an updated summary of the September 15 call with the City of Flint plus an update on utility upgrades, provided by the City.

If you need anything further, let me know.

Eric Cline | Department Manager
State of Michigan | Michigan Department of Treasury | Office of Fiscal Responsibility
430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
Lansing Office (517) 335-2078 | Cell Phone PPI | Traverse City Office (231) 922-5228
E-mail clinerl@michigan.gov

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Summary: Conference Call with City of Flint

September 15, 2015

Participating: Tom Saxton, Wayne Workman, Fred Headen, Eric Cline, Mayor Walling, City Administrator Natasha Henderson, Finance Director Jody Lundquist, City Attorney Pete Bade, Assistant City Attorney Tony Chubb

- The City of Flint is involved in two lawsuits regarding water and sewer rates: *Kincaid* and *Shears*.
    - It was stressed that the *Shears* and *Kincaid* lawsuits are both separate but are being litigated concurrently and that any developments mutually impact both suits.
- It was noted that in the opinion of the City, both cases will continue to be litigated for some time due to the complexity of the issues involved.
- In a related matter, the City Attorney noted that the Water Coalition lawsuit to force the City to purchase water from the City of Detroit was dismissed in Genesee County Circuit Court.

***Shears* Lawsuit**

- *Shears* was decided by the Genesee County Circuit Court by a non-final order on August 17, 2015.
    - Among other things, the Court enjoined City officials from any longer imposing a 35 percent increase in water and sewer rates; from disconnecting water or sewer service due to delinquent bills, dating back to September 16, 2011; and from placing liens on property due to delinquent bills, dating back to September 16, 2011.
    - City officials have filed an appeal with the Michigan Court of Appeals seeking, among other things, a stay of the Genesee County Circuit Court injunction.
    - In the interim, City officials are complying with the Court's order in *Shears*.
- The City's appeal is still being considered by the Court. No timeline for a decision is known.

***Kincaid* Lawsuit**

- *Kincaid* was decided by the Michigan Court of Appeals on June 11, 2015.
    - The Court held that a 35 percent increase in water and sewer rates imposed by City officials on September 16, 2011, violated the City charter and that Emergency Manager Mike Brown had no statutory authority to later ratify those rate increases in May of 2012.
    - The Court of Appeals remanded the case to Genesee County Circuit Court.
    - City officials intended to appeal this decision to the Michigan Supreme Court, <u>but missed the filing deadline by one day</u>.
- The City Attorney stated that litigation of this case must continue because some key issues have yet to be resolved, including:
    - The exact damages have not been clarified.
    - The issue of who has standing in this case remains unresolved.

Financial Impacts

Summary: Conference Call with City of Flint

September 15, 2015

- City officials estimate that nullification of the 35 percent increase in water and sewer rates is costing approximately $600K/month. Therefore, if the Court orders either refunds or credits against future water and sewer bills retroactive to September 16, 2011, the cost is estimated to be approximately $30M.
    - The Finance Director noted that since September 2011, the system has had a declining number of users, so the total potential refund is higher than basing calculations from the current number of users.
    - The City Administrator stated that the City has not developed a plan to issue a refund of this size because the City lacks sufficient funds to do so and they would be unable to operate at this point.
- The City Administrator noted that citizens are paying the latest monthly billing but that the City must contend with lower revenues for the foreseeable future.
- In addition, it was noted that if the City has to refund the Ready-to-Serve charge from September 2011 through July 1, 2015, that this amount is approximately $10M.
- It was noted that the amount of delinquent funds owed to the City that are over 30 days old has grown from $7.8M to $8.4M since the ruling in the Shears Lawsuit.
    - Further, the City Administrator stated that because the City is prohibited from shutting off service for non-payment, the amount of delinquent funds is expected to continue to grow.
- In addition, the City Administrator noted that the measures taken to reserve funds within the system to address the financial issues has delayed needed capital improvements, which further exacerbates the problems within the system, but the City cannot address these capital needs without additional revenue.
- The City Administrator further stressed the importance of the State assistance sought by the Mayor in his September 14, 2015, letter to the Governor.
    - The Mayor requested $30M for infrastructure and capital improvements related to the City's water and sewer system.
    - It was stressed by Treasury that existing funding options were very limited and we were not aware of anything short of a legislative appropriation.
        - State funding of the City's $30M request will likely invite requests from many other communities with similar needs.
        - The State recently awarded the City $2M in Distressed Cities grant funds to implement improvements to their system.
        - The State further provided the City with an additional $2M in relief for outstanding SRF/DWRF loans.
        - Treasury is not aware of any current Flint projects related to their water quality issues that could be funded through the DWRF program and DEQ is responsible for managing DWRF eligible projects.

City of Flint
Water Quality Update
Wednesday September 16TH, 2015

GAC Installation

What: ***$1,601,740 contract with LAN*** to design and install new filter media at the Water Plant

Status: Complete

Leak Detection

What: ***$900,000 Treasury Distressed City Grant*** for Leak Detection / Pipe Wall Assessment

Status: In Progress

The vendor "echologics" is nearly 1/3 complete with the leak detection

WPC Incinerator Shutdown

What: ***$1,100,000 Treasury Distressed City Grant*** for WPC Incinerator Shutdown

Status: In construction phase

The walls are nearly done being erected.

Next steps: Construction of the walls.

Water Meter Installation

What: ***$5,000,000 contract*** to purchase and install up to 18,000 water meters.

Status: In progress

The vendor has established a good routine and has installed approximately 3000 of the targeted 9000 meters have been installed

Installers are facing more resistance from customers about the change outs ~300 people are refusing the installation.

Small jumpers were added to the installation to protect plastic meters going in place of metal to protect electronics within the household.

The main focus of this contract was the $2,500,000 on the front end to complete the targeted 9000 meter installation. This was an FY15 expenditure.

Next steps: Continue with the progress.

From: Wyant, Dan (DEQ)
Sent: Thursday, September 17, 2015 6:20 AM
To: Pallone, Maggie (DEQ)
Cc: Feuerstein, Heather (DEQ);Wurfel, Brad (DEQ);Thelen, Mary Beth (DEQ)
Subject: Re: Ananich Neeley Phelps Flint drinking water response

Can't we do this in person?

Not sure we should use word "never".

Let's discuss today.

Sent from my iPhone

On Sep 16, 2015, at 5:33 PM, Pallone, Maggie (DEQ) <PalloneM@michigan.gov> wrote:

> Senator Ananich is asking for more clarity in our response to him after seeing the Kildee letter. Here is what I am proposing. I attempted to answer each of the questions they posed to us as direct as I could.
>
> Heather is going to route for review tomorrow.
>
> Thanks,
> Maggie
>
> <Ananich Neeley Phelps Flint drinking water response.docx>

Subject:	Elected leaders briefing on City of Flint water
Location:	Great Lakes Conference Room
Start:	Mon 9/21/2015 8:00 AM
End:	Mon 9/21/2015 9:30 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Pallone, Maggie (DEQ)
Required Attendees:	Wyant, Dan (DEQ); Sygo, Jim (DEQ); Wurfel, Brad (DEQ) (WurfelB@michigan.gov); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Feuerstein, Heather (DEQ); Devereaux, Tracy Jo (DEQ)

MP 9/17- Updating Room and attendees

Attending
EPA Region 5 Water Director Tinka Hyde
EPA Region 5 Congressional Liaison Denise Fortin
US Senator Gary Peters (invited)
US Senator Debbie Stabenow's staff
    Teresa Plachetka
    Derrick Mathis, Regional Manager
Congressman Kildee
Senator Jim Ananich
Representative Phil Phelps
Representative Sheldon Neeley

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, September 18, 2015 2:46 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of September 14, 2015
Attachments: E-Clips 091415.pdf

DEQ e-clips

Week of September 14, 2015

Clare County Review: Marathon plans to drill Sheridan wells
http://www.clarecountyreview.com/news/marathon-plans-to-drill-sheridan-wells/

Lenconnect: Dept. of Environmental Quality hears residents about dock plan
http://www.lenconnect.com/article/20150917/NEWS/150919200?template=printart

Ludington Daily News: New use for old weir site on Pere Marquette River
http://www.shorelinemedia.net/ludington_daily_news/news/local/article_9bf951c6-5d45-11e5-9d26-43367a11f7cf.html?mode=print

MLive: Clean Water Action working to make sure our fresh waters are "swimmable, drinkable and fishable"
http://blog.mlive.com/environment_impact/print.html?entry=/2015/09/clean_water_action_working_to.html

Activists urge residents to keep voices heard in Flint water issue
http://blog.mlive.com/newsnow_impact/print.html?entry=/2015/09/activists_urge_residents_to_ke.html

Where Michigan has lost 4.2 million wetland acres in the past 200 years
http://blog.mlive.com/news_impact/print.html?entry=/2015/09/michigan_has_lost_about_42_mil.html

2 years later: Little progress on connected vehicles facility at ex-GM Willow Run plant

http://blog.mlive.com/ann-arbor-business_impact/print.html?entry=/2015/09/connected_vehicles_facility_at.html

Enbridge wages uphill battle in public debate over Mackinac pipeline
http://blog.mlive.com/news_impact/print.html?entry=/2015/09/enbridge_pr_campaign_line_5.html

Michigan Radio: State DEQ to answer questions about Flint's water woes
http://michiganradio.org/post/state-deq-answer-questions-about-flints-water-woes

Hazardous waste facility in Detroit wants to expand, neighbors want more information
http://michiganradio.org/post/hazardous-waste-facility-detroit-wants-expand-neighbors-want-more-information

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of September 14, 2015

Clare County Review: Marathon plans to drill Sheridan wells
http://www.clarecountyreview.com/news/marathon-plans-to-drill-sheridan-wells/

Lenconnect: Dept. of Environmental Quality hears residents about dock plan
http://www.lenconnect.com/article/20150917/NEWS/150919200?template=printart

Ludington Daily News: New use for old weir site on Pere Marquette River
http://www.shorelinemedia.net/ludington_daily_news/news/local/article_9bf951c6-5d45-11e5-9d26-43367a11f7cf.html?mode=print

MLive: Clean Water Action working to make sure our fresh waters are "swimmable, drinkable and fishable"
http://blog.mlive.com/environment_impact/print.html?entry=/2015/09/clean_water_action_working_to.html

Activists urge residents to keep voices heard in Flint water issue
http://blog.mlive.com/newsnow_impact/print.html?entry=/2015/09/activists_urge_residents_to_ke.html

Where Michigan has lost 4.2 million wetland acres in the past 200 years
http://blog.mlive.com/news_impact/print.html?entry=/2015/09/michigan_has_lost_about_42_mil.html

2 years later: Little progress on connected vehicles facility at ex-GM Willow Run plant
http://blog.mlive.com/ann-arbor-business_impact/print.html?entry=/2015/09/connected_vehicles_facility_at.html

Enbridge wages uphill battle in public debate over Mackinac pipeline
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Michigan Radio: State DEQ to answer questions about Flint's water woes
http://michiganradio.org/post/state-deq-answer-questions-about-flints-water-woes

Hazardous waste facility in Detroit wants to expand, neighbors want more information
http://michiganradio.org/post/hazardous-waste-facility-detroit-wants-expand-neighbors-want-more-information

From: Muchmore, Dennis (GOV)
Sent: Monday, September 21, 2015 12:10 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ)
Subject: 09.10.2015-Ananich-MDEQFlintWater_Letter.pdf
Attachments: 09.10.2015-Ananich-MDEQFlintWater_Letter.pdf; ATT00001.txt

How did the conversations go this morning? I got a kind of nasty email from Leavitt this morning.

STATE OF MICHIGAN

September 10, 2015

Michigan Department of Environmental Quality
Executive Division
DEQ Director: Dan Wyant
P.O. Box 30473
Lansing, MI 48909-7973

Director Wyant,

In light of recently released findings by the American Civil Liberties Union, independent researchers and a troubling interim U.S. Environmental Protection Agency memo from June, we are requesting additional answers about the safety and treatment of the City of Flint's water.

Several disturbing points have been raised and we have a number of urgent questions, including:

- **When did the MDEQ become aware of the June 24, 2015, interim EPA memo and whom was it shared with?**
  - Which Flint city officials also received this information?
  - Why was the memo not immediately shared with the public?
  - What response did MDEQ have to the EPA concerns raised in the memo?
  - Were any actions taken by the MDEQ as a result of the issues mentioned in the memo?
  - What steps, if any, were taken to determine the validity of the Virginia Tech study?

- **Please explain why the pre-flushing method of sampling was used in this instance.**
  - Is it the same method that is applied to all sampling or does the agency have the discretion to decide?
  - Who is responsible for making the decision to pre-flush?
  - The EPA memo references the Lead Copper Rule requirement that systems greater than 50,000 users maintain "corrosion control treatment." As the regulator, why did the MDEQ choose not to enforce that standard?
  - The EPA recommends allowing water to rest for at least six hours, but no more than 12 hours, before taking a sample. On MDEQ's Web site, it suggests flushing the line for five minutes before the six-hour rest. How did the department arrive at this method?

- According to a July 9, 2015, article on DeadlineDetroit.com, "Scary: Leaded Water and One Flint Family's Toxic Nightmare,"

  "'The EPA offered Flint officials the use of agency experts to help get the situation under control,' said Del Toral, but added that, to his knowledge, the city has so far declined all help.

  LeeAnne Walters said that when she asked why city officials weren't taking the EPA's offer of assistance, she was told, 'We don't need it.'

STATE OF MICHIGAN

Flint spokesman Lorenz, on the other hand, maintained "the city continues to work closely with the MDEQ and the EPA Regional Office."

- Who refused the EPA's offer of expert assistance and why?

- **Is the damage done to the pipes (as described in the EPA report) accurate?**
  - If yes, will damaged pipes continue to leach lead or will properly treated water safely reach consumers?
  - What is the plan and timeline to address it?

- **And most importantly, what can be done immediately to ensure safe, affordable drinking water for the citizens of Flint?**

Many of the decisions that led to the current situation occurred while a state-appointed manager was in control and MDEQ personnel were consulted about testing methods and how to address the situation. In addition, MDEQ also encouraged the method of water testing used by Flint officials. We believe that there is a heightened obligation by the state to make this right.

Due to the serious public health threats of this situation, we respectfully request a response to these matters by Monday, September 14, 2015.

We will do our best to accommodate meeting requests, if necessary, but would appreciate written responses to the above questions so that we can make informed decisions swiftly to address these serious concerns.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

cc:
U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Wyant, Dan (DEQ)
Sent: Wednesday, September 23, 2015 7:33 AM
To: Muchmore, Dennis (GOV);Wurfel, Brad (DEQ);Murray, David (GOV);Wurfel, Sara (GOV)
Cc: Hollins, Harvey (GOV)
Subject: RE: DEQ Flint water docs

The Mayor of Flint has a technical advisory. DEQ and EPA are sending our experts. The advisory has outside experts. The group will looks at the data and offer their recommendations and opinions.

Dan Wyant, Director
Department of Environmental Quality
517-284-6700 (New Number)

From: Muchmore, Dennis (GOV)
Sent: Tuesday, September 22, 2015 3:16 PM
To: Wurfel, Brad (DEQ); Murray, David (GOV); Wurfel, Sara (GOV); Wyant, Dan (DEQ)
Cc: Hollins, Harvey (GOV)
Subject: RE: DEQ Flint water docs

Should we ask one of our own Professors to comment on this article and the testing...

From: Wurfel, Brad (DEQ)
Sent: Tuesday, September 22, 2015 8:13 AM
To: Murray, David (GOV) <MurrayD1@michigan.gov>; Wurfel, Sara (GOV) <Wurfels@michigan.gov>
Cc: Muchmore, Dennis (GOV) <muchmored@michigan.gov>; Hollins, Harvey (GOV) <hollinsh@michigan.gov>
Subject: Fwd: DEQ Flint water docs

Some necessary info RE Flint. One is a Q&A we developed. Other is from DHHS -- spreadsheet on blood lead levels in kids.
Call me with questions. Thanks.

b

Brad Wurfel

Communications Director

Michigan Department of Environmental Quality

517-284-6713

PPI cell

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 23, 2015 4:20 PM
To: Wurfel, Brad (DEQ);Benzie, Richard (DEQ);Shekter Smith, Liane (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: Technical Advisory Meeting

FYI. Note the invitees

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

From: "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>
Date: September 23, 2015 at 4:09:15 PM EDT
To: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
Subject: FW: Technical Advisory Meeting

Steve,

It appears that I may have the opportunity to meet Mr. Edwards.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, September 23, 2015 3:52 PM
To: Brent Wright; Dayne Walling; donna. cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; James Henry; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; lytle.darrin@epa.gov; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Warren Green; Busch, Stephen (DEQ)
Subject: Technical Advisory Meeting

Technical Advisory Team,

I am writing to inform everyone that we have scheduled the next Technical Advisory Committee meeting to be Wednesday October 7th, 2015 from 2:00 – 4:30 pm. We are extending invitations to Marc Edwards of Virginia Tech along with two lead experts from the EPA (Darren Lytle & Michael Schock) to become a part of the technical team and we are hopeful that they will all be present at the upcoming meeting.

At the meeting we will discuss an overview of the City water system, compliance with the Safe Drinking Water Act, lead concerns, corrosion control, water testing, public education, capital improvement plans, the KWA pipeline, and next steps.

I will forward a specific location and agenda in the near future but we are firmly committing to the time and date. As with previous meetings we look forward to this group having positive dialogue that will benefit the community.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 23, 2015 4:31 PM
To: Pallone, Maggie (DEQ);Shekter Smith, Liane (DEQ);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Benzie, Richard (DEQ);Thelen, Mary Beth (DEQ)
Subject: Fwd: DRFAT_Advisory
Attachments: DRAFT_Lead Advisory.docx; ATT00001.htm

FYI from city of Flint.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

> **From:** Howard Croft <hcroft@cityofflint.com>
> **Date:** September 23, 2015 at 4:25:48 PM EDT
> **To:** "Henry, James" <jhenry@gchd.us>
> **Cc:** "Mike Prysby (DEQ)" <prysbym@michigan.gov>, "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>, Natasha Henderson <nhenderson@cityofflint.com>, "Flint Mayor" <dwalling@cityofflint.com>, Sean Kammer <skammer@cityofflint.com>, Jason Lorenz <jlorenz@cityofflint.com>
> **Subject: DRFAT_Advisory**
>
> Jim,
>
> As a follow up to our earlier conversation, here is a brief advisory draft that we put together that still needs comments and information from the Health Dept and DEQ. I have just spoken to Mike Prysby of the DEQ and he will have their team review and make comments prior to adoption of a final version.
>
> The GFHC group has requested the opportunity to see our final copy when it is ready, I have stamped this as a draft and will keep it that way until there is agreed upon content and the City Administrator has approved it.
>
> Thank you,
>
> --
> **Howard Croft**

Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Public Health Advisory Regarding Lead in Drinking Water

The City of Flint is issuing a Public Health Advisory for residents to be aware of lead levels in drinking water. While the City is in full compliance with the Federal Safe Drinking Water Act, this advisory is being issued as part of a public information campaign to ensure that everyone takes note that no level of lead is considered safe.

Lead contamination can leach into water from a home's lead water service lines, lead solder, and leaded plumbing materials including fixtures, faucets, and fittings. Older service lines with pipes and fixtures installed before 1986 can sometimes be more susceptible to lead issues due to materials used in the home such as lead based paint and lead pipes. This message is meant as a precaution to residents and does not mean that all homes in the City will experience the same issue.

In an effort to minimalize any potential risk, the City of Flint Public Works Department advises the public to take the following precautions:

- Flush water for at least five minutes prior to use.
- Only use cold water for cooking and drinking.
- Have your water tested (see information below).

For more specific questions about lead related issues please visit the Genesee County Health Department website at www.gchd.us . The City of Flint is working proactively along with the County Health Department, the Michigan Department of Environmental Quality, and the U.S. Environmental Protection Agency to improve the water system throughout the City.

The City's Utilities Division continues to offer free water testing by calling the Water Treatment Plant at 810-787-6537 and pressing #1 after prompted or by emailing flintwater@cityofflint.com.

DRAFT

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, September 24, 2015 1:35 PM
To: Wurfel, Brad (DEQ)
Cc: Grijalva, Nancy (DCH);Wisniewski, Wendy (GOV);Pleyte, Beth (Treasury)
Subject: RE: Important call today

Thanks Brad - we will keep you posted!

-----Original Message-----
From: Wurfel, Brad (DEQ)
Sent: Thursday, September 24, 2015 1:33 PM
To: Thelen, Mary Beth (DEQ)
Cc: Grijalva, Nancy (DCH); Wisniewski, Wendy (GOV); Pleyte, Beth (Treasury)
Subject: Re: Important call today

Say when. I'll find a way.

Sent from my iPhone

> On Sep 24, 2015, at 1:31 PM, Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov> wrote:
>
> Dan Wyant, Brad Wurfel, and Maggie Pallone at in St. Ignace at the Enbridge Emergency Management Drill. They too will not be available until 5:00 or after for this call.
> However, if the call is set up earlier, please let me know and I'll try to reach one of them to handle this call with Harvey.
>
> Thanks.
> Mary Beth
>
> -----Original Message-----
> From: Grijalva, Nancy (DCH)
> Sent: Thursday, September 24, 2015 12:58 PM
> To: Wisniewski, Wendy (GOV); Thelen, Mary Beth (DEQ); Pleyte, Beth (Treasury)
> Subject: RE: Important call today
>
> Nick is also in the tribal summit
>
> -----Original Message-----
> From: Wisniewski, Wendy (GOV)
> Sent: Thursday, September 24, 2015 12:45 PM
> To: Grijalva, Nancy (DCH); Thelen, Mary Beth (DEQ); Pleyte, Beth (Treasury)
> Subject: FW: Important call today
> -----Original Message-----
> From: Wisniewski, Wendy (GOV)
> Sent: Thursday, September 24, 2015 12:42 PM
> To: Clayton, Stacie (GOV) <claytons3@michigan.gov>
> Cc: Hollins, Harvey (GOV) <hollinsh@michigan.gov>
> Subject: RE: Important call today
>
> Dennis has the tribal summit with Governor today so if you need him he is only available from 3:30 - 4:30 or after 5:00
>

> -----Original Message-----
> From: Clayton, Stacie (GOV)
> Sent: Thursday, September 24, 2015 12:33 PM
> To: Wisniewski, Wendy (GOV) <wisniewskiw@michigan.gov>
> Cc: Hollins, Harvey (GOV) <hollinsh@michigan.gov>
> Subject: Important call today
>
> Hi Wendy,
>
> I just tried your desk phone. I'm on vacation today. Will you please assist Harvey in setting up a conf call for this afternoon regarding Flint water? This is time-sensitive.
>
> The call should include Muchmore, Clement, Baird, Wyant, Lyon, Saxton, and D. Murray.
>
> Please let me know. Thank you.
>
> Stacie Clayton
> Sent from my iPhone
>

From: Olszewski, Rosemarie (DEQ)
Sent: Thursday, September 24, 2015 2:04 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of September 21, 2015
Attachments: E-Clips 092115.pdf

DEQ e-clips

Week of September 21, 2015

CBS Detroit: Researchers Finish Study Of Michigan Oil, Gas Fracking
http://detroit.cbslocal.com/2015/09/23/researchers-finish-study-of-michigan-oil-gas-fracking/

Detroit News: Batts: Lawmaker has wrong idea on landfills
http://www.detroitnews.com/story/opinion/2015/09/19/batts-lawmaker-wrong-idea-landfills/72481844/

Hazardous waste facility's expansion prompts worries
http://www.detroitnews.com/story/news/local/detroit-city/2015/09/24/hazardous-waste-facilitys-expansion-prompts-worries/72715650/

MLive: U.S. congressman calls for more testing of Flint water
http://www.mlive.com/news/flint/index.ssf/2015/09/kildee_says_independent_tests.html

New PHMSA director to attend Mackinac straits oil spill exercise
http://www.mlive.com/news/index.ssf/2015/09/new_phmsa_head_to_attend_macki.html#incart_river

Enbridge Line 5 oil spill response drill tackles dynamic Mackinac straits
http://blog.mlive.com/news_impact/print.html?entry=/2015/09/enbridge_mackinac_exercise.html

Michigan Radio: Federal, state and local officials meet to talk about Flint's water woes
http://michiganradio.org/post/federal-state-and-local-officials-meet-talk-about-flints-water-woes#stream/0

Oil spill drill will take place in the Straits of Mackinac today
http://michiganradio.org/post/oil-spill-drill-will-take-place-straits-mackinac-today

State plan to curb Wayne County sulfur dioxide blasted at public hearing
http://michiganradio.org/post/state-plan-curb-wayne-county-sulfur-dioxide-blasted-public-hearing#stream/0

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of September 21, 2015

CBS Detroit: Researchers Finish Study Of Michigan Oil, Gas Fracking
http://detroit.cbslocal.com/2015/09/23/researchers-finish-study-of-michigan-oil-gas-fracking/

Detroit News: Batts: Lawmaker has wrong idea on landfills
http://www.detroitnews.com/story/opinion/2015/09/19/batts-lawmaker-wrong-idea-landfills/72481844/

Hazardous waste facility's expansion prompts worries
http://www.detroitnews.com/story/news/local/detroit-city/2015/09/24/hazardous-waste-facilitys-expansion-prompts-worries/72715650/

MLive: U.S. congressman calls for more testing of Flint water
http://www.mlive.com/news/flint/index.ssf/2015/09/kildee_says_independent_tests.html

New PHMSA director to attend Mackinac straits oil spill exercise
http://www.mlive.com/news/index.ssf/2015/09/new_phmsa_head_to_attend_macki.html#incart_river

Enbridge Line 5 oil spill response drill tackles dynamic Mackinac straits
http://blog.mlive.com/news_impact/print.html?entry=/2015/09/enbridge_mackinac_exercise.html

Michigan Radio: Federal, state and local officials meet to talk about Flint's water woes
http://michiganradio.org/post/federal-state-and-local-officials-meet-talk-about-flints-water-woes#stream/0

Oil spill drill will take place in the Straits of Mackinac today
http://michiganradio.org/post/oil-spill-drill-will-take-place-straits-mackinac-today

State plan to curb Wayne County sulfur dioxide blasted at public hearing
http://michiganradio.org/post/state-plan-curb-wayne-county-sulfur-dioxide-blasted-public-hearing#stream/0

From: Pallone, Maggie (DEQ)
Sent: Thursday, September 24, 2015 4:04 PM
To: Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Wyant, Dan (DEQ)
Subject: Fwd: Data
Attachments: Pediatric Lead Exposure Flint Water 092415 FINAL.pdf; ATT00001.htm

Begin forwarded message:

From: "Ackerman, Darin (GOV)" <ackermand3@michigan.gov>
To: "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>
Subject: FW: Data

You may already have this, but just in case..

Darin Ackerman, Deputy Director
Legislative Affairs Division
Office of Governor Snyder
State Capitol
Lansing, MI 48913
Phone: (517) 241-3950

From: Murray, David (GOV)
Sent: Thursday, September 24, 2015 2:02 PM
To: Ackerman, Darin (GOV) <ackermand3@michigan.gov>
Subject: FW: Data

Thanks, Darin!

From: angela.vasquez.giroux@gmail.com<mailto:angela.vasquez.giroux@gmail.com> [mailto:angela.vasquez.giroux@gmail.com] On Behalf Of Angela Wittrock
Sent: Thursday, September 24, 2015 1:44 PM
To: Murray, David (GOV) <MurrayD1@michigan.gov<mailto:MurrayD1@michigan.gov>>
Subject: Fwd: Data

---------- Forwarded message ----------
From: Andy Leavitt <aleavitt@senatedems.org<mailto:aleavitt@senatedems.org>>
Date: Thu, Sep 24, 2015 at 1:41 PM
Subject: Data
To: Angela Wittrock <awittrock@senatedems.org<mailto:awittrock@senatedems.org>>
Hey Angela,

Sorry for the delay. Dr. Mona Hanna-Attisha wanted to make a few changes to one of her slides.

Andy

PEDIATRIC LEAD EXPOSURE IN FLINT, MI: CONCERNS FROM THE MEDICAL COMMUNITY

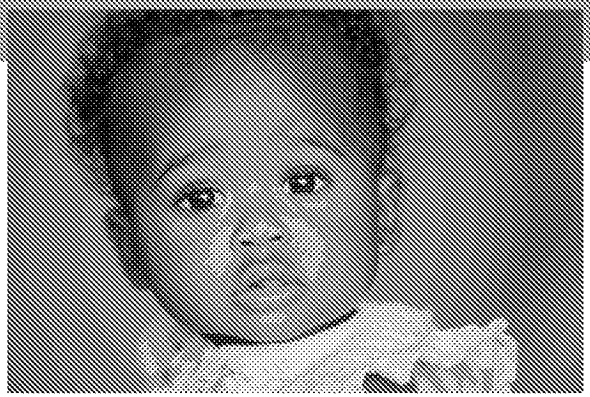
(this will not be written. I will introduce myself, Dr Reynolds can introduce himself and then I will say that we are here as a medical communtiy representing: GFHC, GCMS, Hurley Med Center, Hamilton Health Network)

THANK YOU'S

(this will not be written.

Thank you to Hurley for hosting this press conference, TY to grassroots organizers, prof Edwards and virginia tech, state and federal agencies involved in keeping our water safe, the city for being concerned and taking action, and health department for ensuring the safety of the entire population??

Introducing Makayla*



- 12 month old girl (DOB 8/15/2014) presented last week for her 1 year old check up. No concerns.
- Lives with single mom and 2 older siblings in west side (48504). Formula from WIC; powder mixed with warm tap water.
- Physical exam and development are normal. Makayla receives her 1 year old vaccines and routine lead and hemoglobin screening.
- *A couple days later, lead level comes back as 6 ug/dL.*

*Hypothetical scenario

Blood lead level of 6 ug/dL….

- Blood lead levels (BLL) above 5 ug/dL are considered elevated blood lead levels (EBL)
- Just a few years ago (2012), 10 ug/dL was cutoff
- Increasing evidence shows NO safe blood lead level
- Disproportionately impacts low income children
- Primary prevention is most important
  - Prevents exposure before it occurs!

Primary Prevention

- "Because no measurable level of blood lead is known to be without deleterious effects, and because once engendered, the effects appear to be irreversible in the absence of any other interventions, public health, environmental and housing policies should encourage PREVENTION of all exposure to lead."

"Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention." 2012 CDC Advisory Committee on Childhood Lead Poisoning Prevention.

What will happen to Makayla?

- Vast evidence supports increased likelihood of:
  - Decrease in IQ
    - An increase in BLL from 1 to 4 ug/dL, drops mean IQ -3.7 points
  - Small change in mean IQ, shifts entire population IQ distribution
    - Reduces high achievers IQs (>130) and increases kids with low IQs (<70)
    - Implications for early intervention, special education services, employment, incarceration, life achievement, etc

Lanphear BP et al., Low-level environmental lead exposure and children's intellectual function: an international pooled analysis. Environ Health Perspect, 2005. 113:894-9.
Fewtrell LJ, Pruss-Ustun A, Landrigan P, and Ayuso-Mateos JL, Estimating the global burden of disease of mild mental retardation and cardiovascular diseases from environmental lead exposure. Environmental Research, 2004. 94:120-33.

Behavioral Burden

- Increased likelihood of :
  - ADHD behaviors
  - Delinquent behaviors and arrests
  - Total arrests and increased rates of arrests involving violent offenses
  - Other health effects: hematologic, cardiovascular, immunologic, endocrine, etc

Wright, JP, KN Dietrich, MD Ris, et al. 2008. Association of prenatal and childhood blood lead concentrations with criminal arrests in early adulthood. *PLoS Med* 5(5): e101

Chen, A, B Cai, KN Dietrich, et al. 2007. Lead exposure, IQ, and behavior in urban 5-7 year-olds: Does lead affect behavior only by lowering IQ? *Pediatrics* 119(3): e650-e658.

Needleman, HL, C McFarland, RB Ness, et al. 2002. Bone lead levels in adjudicated delinquents: A case control study. *Neurotoxicology and Teratology* 24(6):711-717.

The Cost

- "For childhood lead poisoning, $5.9 million in medical care costs, as well as an additional **$50.9 billion** (sensitivity analysis: $44.8–$60.6 billion) per year in lost economic productivity resulting from reduced cognitive potential from preventable childhood lead exposure."

- "The present value of Michigan's economic losses attributable to lead exposure in the 2009 cohort of 5 year-olds ranges from $3.19 (using U.S. blood lead levels) to **$4.85 billion** (using Michigan blood lead levels) per year in loss of future lifetime earnings."

Leonardo Trasande and Yinghua Liu. Reducing The Staggering Costs Of Environmental Disease In Children, Estimated At $76.6 Billion In 2008. *Health Affairs*, 30, no.5 (2011):863-870

The Price of Pollution: Cost Estimates of Environment-Related Childhood Diseases in Michigan. 2010 Report by Michigan Network of Children's Environmental Health

Lead in Water

- Increasing as source of lead because of success in controlling other sources.
- Increasing due to aging water infrastructures, change in water sources, disinfectant uses, etc
- Lots of variability in water lead levels depending on internal and external pipes, use of water, temperature, etc

- Disproportionally impacts developmentally-vulnerable formula-fed infants and pregnant mothers
  - Formula preparation

Triantafyllidou, S., Gallagher. D. and Edwards, M. Assessing risk with increasingly stringent public health goals: the case of water lead and blood lead in children. Journal of Water and Health. doi: 10.2166/wh.2013.067 58-68 (2014).
Edwards, M. Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water. Env. Sci. and Tech. 2013 DOI: 10.1021/es4034952

Role of the Pediatrician

- Prevention of everything to optimize children's health
- Lead screening as recommended by CDC and AAP at 1 and 2 years of age
- Inquiry and advocacy

RESEARCH FINDINGS

Results of Pediatric Blood Lead Levels

- **Methods**
  - Data from all blood lead levels processed at Hurley Medical Center
  - HMC Institutional Review Board (IRB) approved
  - All children under 5 years of age
  - Zip codes 48501-48507
  - Two periods of comparison:
    - PRE-SWITCH: January 1, 2013 – September 15, 2013
      - WATER SWITCH APRIL 2014
    - POST-SWITCH: January 1, 2015 – September 15, 2015

Results of Pediatric Blood Lead Levels

- **Methods**
  - Analyzed % Elevated Blood Lead (EBL)
    - EBL = Blood lead Levels > 5 g/dL
  - EBL analysis conducted based on scientific literature (most notably DC lead in water exposure)

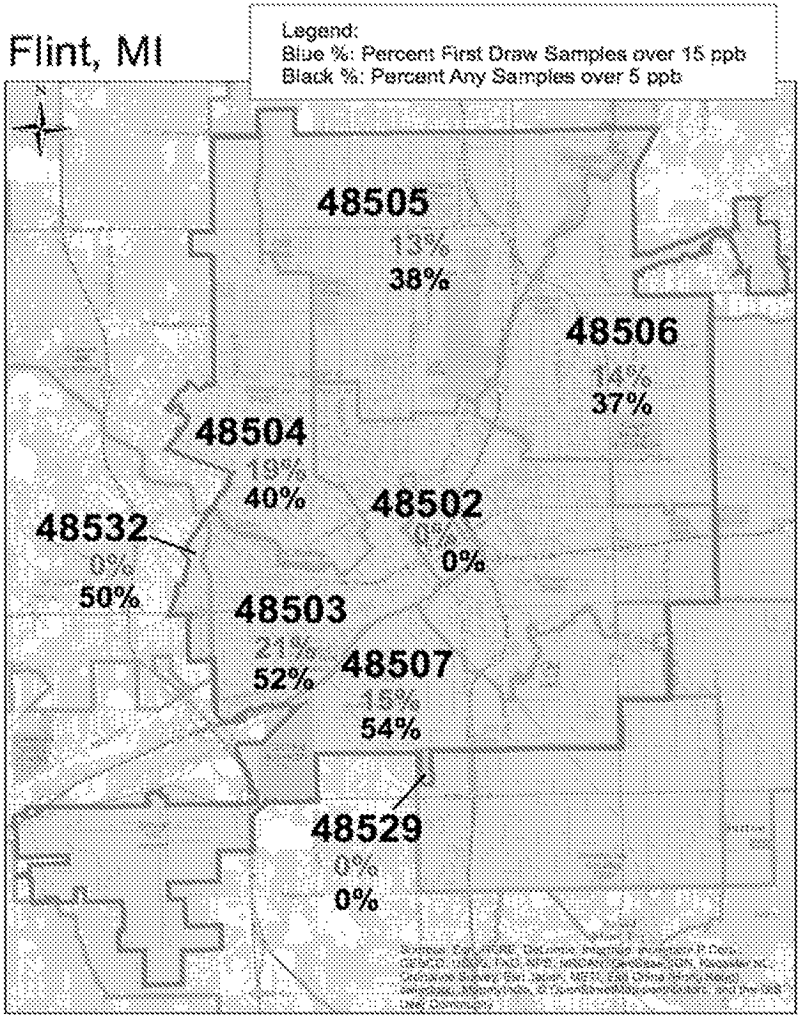
Blood Lead Level Analysis

- Large sample size
  - N= 1746 for Flint children (pre n=906, post n=840)
  - N= 1670 for non-Flint children (pre n=943, post n=727)

Flint results for children 5 years and under:

- PRE-SWITCH % EBL: **2.1%** **(consistent with MDHHS data 2.2)**
- POST-SWITCH % EBL: **4.0%**
- **$p < 0.05$; STATISTICALLY SIGNIFICANT CHANGE**

Zip Codes With High Water Lead



- Focus on zip codes (48503 and 48504) with high water lead levels
- Total n=742, pre n=394, post n=348

Results:

- PRE-SWITCH % EBL: **2.5%**
- POST-SWITCH % EBL: **6.3%**
- **$p < 0.05$; STATISTICALLY SIGNIFICANT CHANGE**

What was rest of county doing?

- Analysis of same time periods for Genesee County children who live outside of City of Flint zips codes (non 48501-48507)
  - N=1670 for non-Flint children (pre n=943, post n=727)

Non-Flint results for children 5 years and under:

- PRE-SWITCH % EBL: **0.6%**
- POST-SWITCH % EBL: **1.0%**
- **p = 0.637; NO STATISTICAL CHANGE**

Blood Lead Level Analysis

- % EBL all children less than 5 years of age

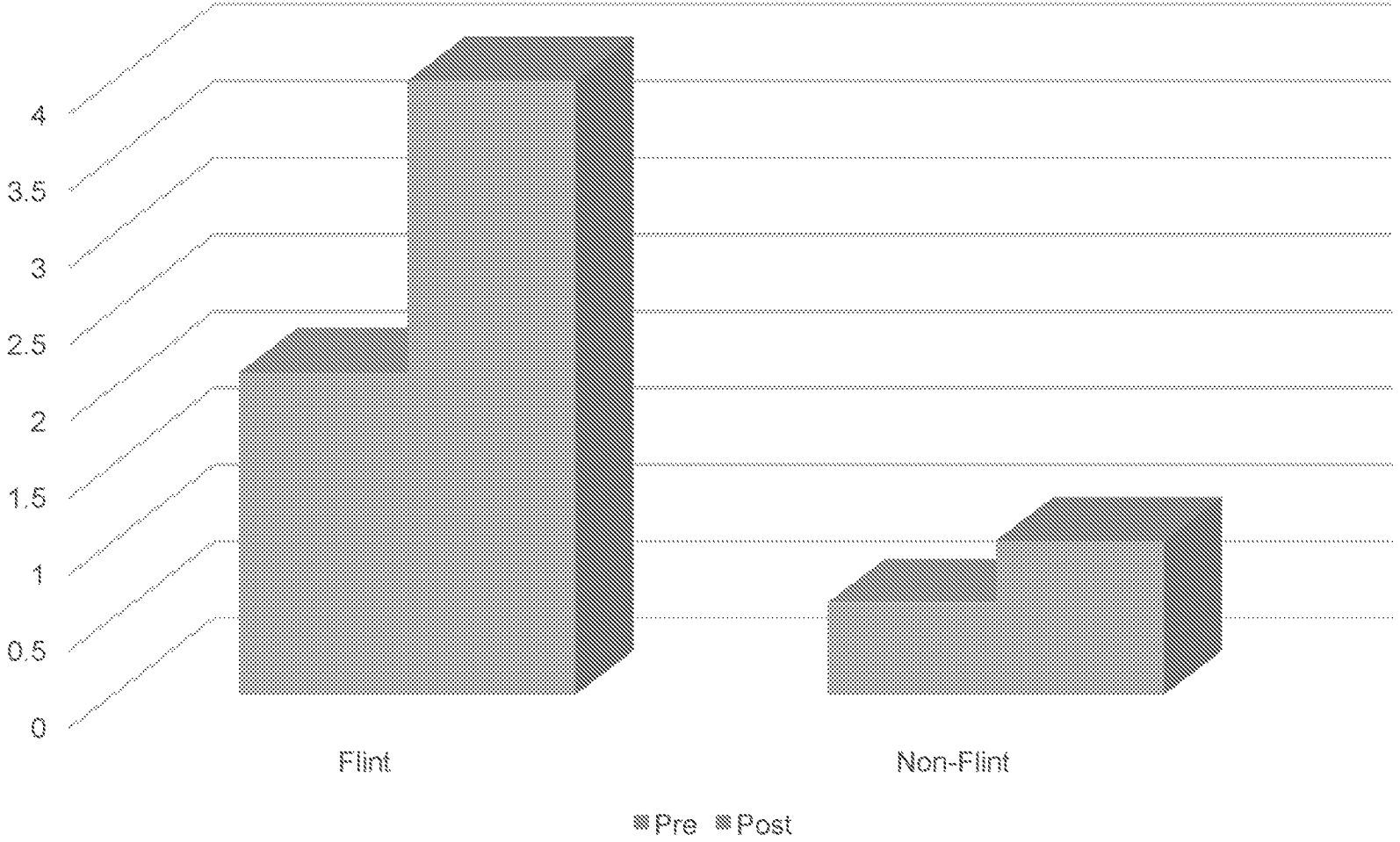
	ALL FLINT (n=1746)	HIGH-water lead FLINT (n=742)	REST OF FLINT (n=1004)	NON-FLINT (n=1670)
PRE-SWITCH	2.1%	2.5%	1.8%	0.6%
POST-SWITCH	4.0%	6.3%	2.4%	1.0%

Blood Lead Level Analysis – 15 month

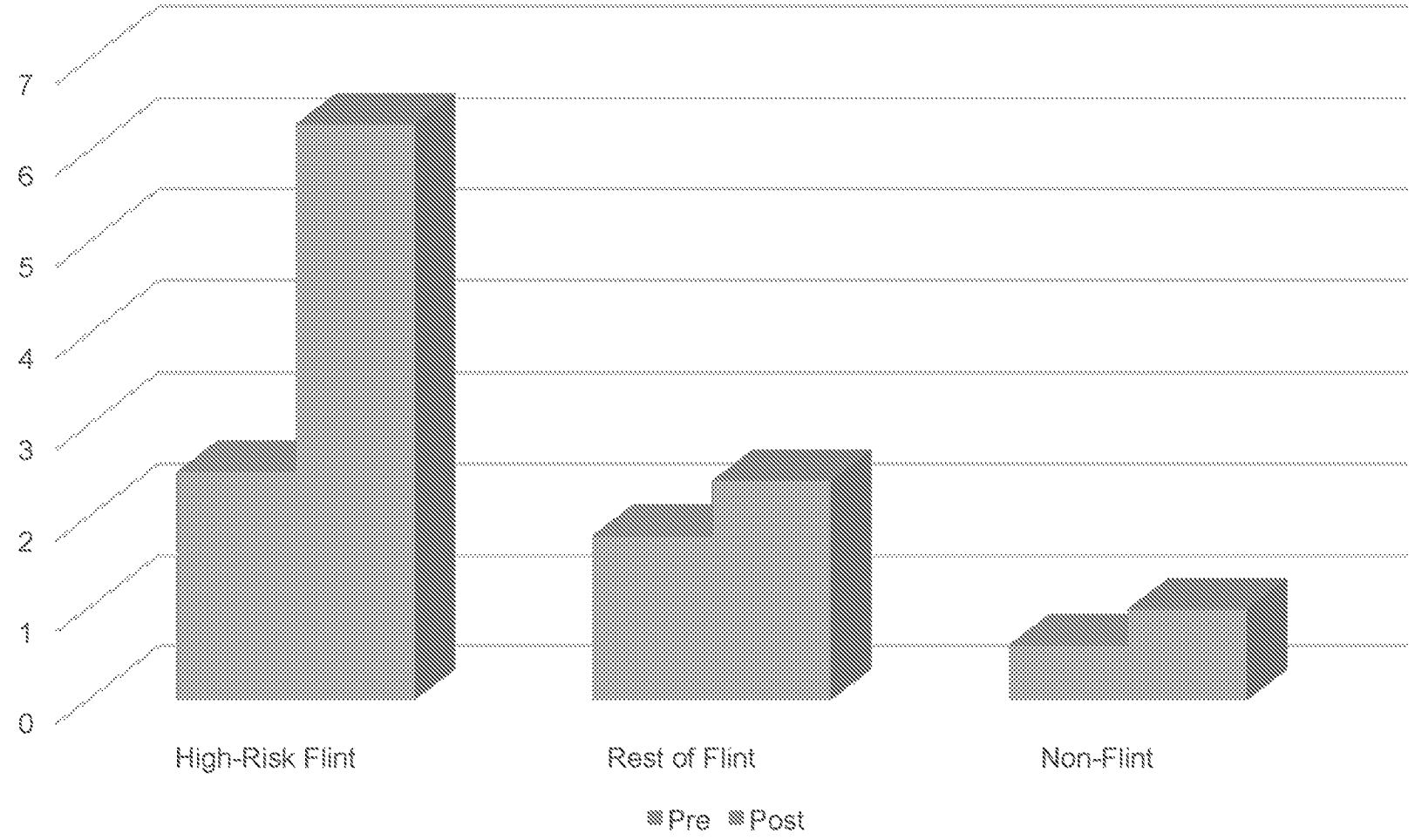
- % EBL children 15 months or less
  - Total Flint n=619, pre n=295, post n=324 (smaller sample size)
  - Total Non-Flint n=816, pre n=443, post n=376

	ALL FLINT (n=619)	HIGH-water lead (n=269)	REST OF FLINT (n=350)	NON-FLINT (n=816)
PRE-SWITCH	1.0%	1.5%	0.6%	0.5%
POST-SWITCH	2.5%	4.4%	1.1%	0.5%

Graphical Summary
Change in % EBL Flint vs Non-Flint



Graphical Summary
Change in % EBL by area



Conclusions from BLL analysis

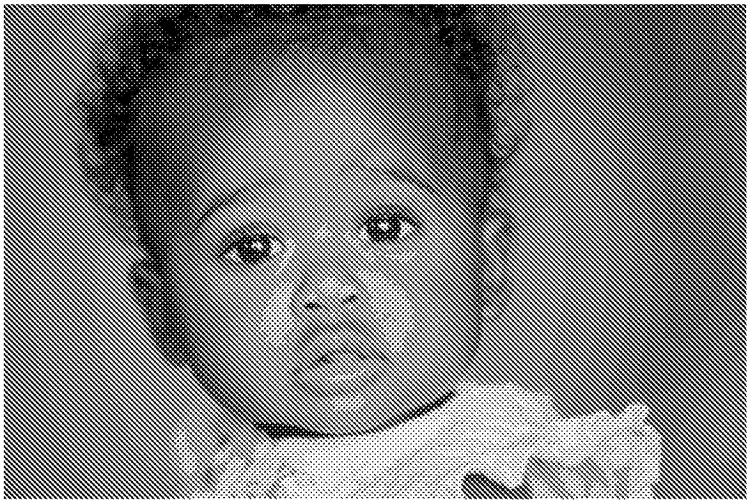
- Based on our research, % of children with EBL in Flint has increased
  - Most striking increase in zip codes with highest water lead levels
  - Also saw an increase in kids less than 15 months, sample small
- Results underestimate risk:
  - Infants not screened for lead
  - BLL may have peaked before being measured
  - Water usage has dropped

Recommendations

- AAP and CDC recommendation of primary prevention
- Limit further exposure
  - Encourage breast feeding
  - No tap water for high risk groups: infants on formula & pregnant mothers
  - Distribution of lead clearing NSF-approved filters
  - Public education regarding precautions (flushing, cold water, etc)
  - Connect to Lake Huron water source
- Support city's health advisory and health department's public education efforts

And Makayla…

- Asymptomatic now
- But what will her future hold and an entire generation of Flint children if we don't err on the side of safety?



From: Thelen, Mary Beth (DEQ)
Sent: Friday, September 25, 2015 2:07 PM
To: Pallone, Maggie (DEQ);Anderson, Madhu (DEQ);Epkey, Amy (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ)
Cc: Copen, Leigh (DEQ);Wilcox, Candra (DEQ);Shaler, Karen (DEQ);Feuerstein, Heather (DEQ)
Subject: Director's 8:00 Exec Leadership Team List for Monday, September 28 - (Also additional Items from Amy Epkey)

Dear Executive Leadership Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Leadership Team meeting on Monday, September 28.
Please note: Amy Epkey has asked for some time to discuss budget items and I have added that under Administration. Those items are 2017 Budget Development and Groundwater Fees- September 29 meeting with Senator Green.

Executive

- Update from the Meeting with the Governor on Recycling – September 23
- Update from the Governor on Enbridge – September 23
- Directors' Schedule this week –Mtg with Beth Clement, Legislators, Gary Owen/Plum Creek, Cass County Pilot, Premeeting on Pipeline, Engagement Team, 1 on 1s, Speech at Shanty Creek
- Michigan Petroleum Pipeline Task Force – Implementation of Recommendations
- Pipeline Advisory Council – October 28, 2:30-4:30
- Employee Survey Results – Action Plan
- Organizational Excellence - Nominations due this week on Fit Leaders Conference (Madhu)
- Invasive Carp Updates
- Director's Advisory Council for October 23 - discuss agenda
- Budget
- District Visits – Lansing District on October 12
- Enforcement Policy

Admin (Amy Epkey)

- 2017 Budget Development
- Groundwater Fees – September 29 Meeting with Senator Green
- Updates on Underground Storage Tank Authority
- Michigan Strategic Water Fund
- Administration Division In-Service Suggestions
- Budget

AQD

- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Lasher, Geralyn (DCH)
Sent: Friday, September 25, 2015 4:01 PM
To: Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: FW: water issue
Attachments: Lead Advisory Release.pdf

Assume you already saw this

From: Hertel, Elizabeth (DCH)
Sent: Friday, September 25, 2015 2:43 PM
To: Lasher, Geralyn (DCH) <lasherg@michigan.gov>; Lyon, Nick (DCH) <LyonN2@michigan.gov>; Becker, Timothy (DCH) <beckert1@michigan.gov>
Cc: Grijalva, Nancy (DCH) <GrijalvaN@michigan.gov>; Ray, Patricia (DCH) <RayP2@michigan.gov>
Subject: FW: water issue

From: Miller, Mark (DCH)
Sent: Friday, September 25, 2015 2:39 PM
To: Priem, Wesley F. (DCH); Travis, Rashmi (DCH); Hertel, Elizabeth (DCH); Eisner, Jennifer (DCH); Dykema, Linda D. (DCH); Minicuci, Angela (DCH)
Cc: Robinson, Mikelle (DCH); Moran, Susan (DCH)
Subject: FW: water issue

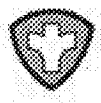
FYI, issued today after the press conference today.

mark

From: Valacak, Mark [mailto:MVALACAK@gchd.us]
Sent: Friday, September 25, 2015 2:35 PM
To: Robinson, Mikelle (DCH) <RobinsonM18@michigan.gov>
Cc: Miller, Mark (DCH) <millerm1@michigan.gov>
Subject: RE: water issue

Attached is the lead advisory issued by the city of Flint.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,
630 S. Saginaw St. Suite 4 Flint, MI 48502-1540
Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us



Public Health

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter
*NOTICE: This e-mail, including attachments, is intended for the exclusive use of the addressee and may contain proprietary, confidential or privileged information. If you are not the intended recipient, any disclosure, use, distribution, copying, or taking of any action in reliance of the contents of this e-mail is strictly prohibited. If you have received this e-mail in error, please notify me via e-mail and permanently delete the original and destroy all copies. Thank you.

For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Robinson, Mikelle (DCH) [mailto:RobinsonM18@michigan.gov]
Sent: Thursday, September 24, 2015 2:27 PM
To: Valacak, Mark
Subject: RE: water issue

Great, thank you!

From: Valacak, Mark [mailto:MVALACAK@gchd.us]
Sent: Thursday, September 24, 2015 2:22 PM
To: Robinson, Mikelle (DCH)
Subject: RE: water issue

Mikelle,

Happy to work with you on this and appreciate any assistance the state can provide. The "lead in water" fact sheet is posted to our website http://www.gchd.us/ under the popular pages column. We sent our recommended revisions to the city water department for the advisory and will forward that when it is available.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us



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From: Robinson, Mikelle (DCH) [mailto:RobinsonM18@michigan.gov]
Sent: Thursday, September 24, 2015 2:12 PM
To: Valacak, Mark
Cc: Miller, Mark (DCH)
Subject: water issue

Hi Mark,

Thank you for taking time to talk with me earlier. Attached are MDHHS talking points. Were you able to finalize and post your county fact sheet? Please forward a copy to me if possible.

Also, I mentioned that we were looking into what D.C. did previously on this issue and this is an excerpt from their plan. FYI in case it is useful to you.

Following the LCR (U.S. EPA 1991), guidance from the U.S. EPA, consultation with the DC Department of Health, and its own contingency plans, in 2003 the DCWASA implemented plans for families living in homes with lead lines or testing above the LAL:

- Advisories were disseminated recommending that water lines should be flushed for 10 min before consuming drinking water.
- Specific advice for limiting exposure to children < 6 years of age and pregnant and nursing women was sent to all households with suspected lead service lines, in the form of flyers prepared in English, Spanish, Korean, Chinese, Vietnamese, and Amharic.
- Filters were distributed to homes with suspected lead service lines and later to all homes with a test result > 15 ppb (the LAL). Replacement filter cartridges were then sent to the same homes at 6-month intervals for the duration of the period of the exceedance, ending in June 2006.
- The board of directors of the DCWASA decided to adopt a voluntarily accelerated program to replace the public segment of all lead service lines in the District of Columbia, exceeding requirements of the LCR (U.S. EPA 1991).
- Homeowners were offered replacement of the private segment of lead service lines on their property, at cost, at the same time that the public segments of the lead service lines were replaced. When the public line is replaced but the private line is not, lead levels are reduced proportionally to the length of pipe replaced but not eliminated.
- Low-cost financing was arranged with a local bank for qualifying property owners who wished to replace the private part of the lead service line on their property. The DC government later made grants available to low-income eligible residents for this purpose.
- The DCWASA offered free water testing to any customer in the distribution area who requested it.

Thank you.

Mikelle

Mikelle Robinson
Director, Local Health & Administrative Services
Population Health & Community Services
MDHHS
(517) 335-8701
Robinsonm18@michigan.gov

Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Jason Lorenz
Public Information Officer
Office: (810) 237-2039
Cell: PPI
jlorenz@cityofflint.com

For Immediate Release

City of Flint Issues Lead Advisory

Flint, Michigan – September 25, 2015 – The City of Flint is issuing a Lead Advisory for residents to be aware of lead levels in drinking water after hearing concerns from the medical community. While the City is in full compliance with the Federal Safe Drinking Water Act, this information is being shared as part of a public awareness campaign to ensure that everyone takes note that no level of lead is considered safe.

The Genesee County Health Department has issued a fact sheet regarding lead precautions for residents. The fact sheet can be found on their website at www.gchd.us. Here are a few of the suggestions the Health Department recommends:

- Flush your cold-water pipes by running the water for approximately 5 minutes
- Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula.
- Install a water filter that is NSF-certified for lead removal.

Lead contamination can leach into water from a home's lead water service lines, lead solder, and leaded plumbing materials including fixtures, faucets, and fittings. Older service lines with pipes and fixtures installed before 1986 can sometimes be more susceptible to lead issues due to materials used in the home such as lead based paint and lead pipes.

This message is meant as a precaution to residents and does not mean that all homes in the City will experience the same issue. Residents with concerns about lead service lines

and lead in home plumbing fixtures are encouraged to contact the City's Utilities Division to schedule a free water testing by calling the Water Treatment Plant at 810-787-6537 and pressing #1 after prompted or by emailing flintwater@cityofflint.com.

The City of Flint is working proactively along with the County Health Department, the Michigan Department of Environmental Quality, and the U.S. Environmental Protection Agency to improve the water system throughout the City. An accelerated plan to add a corrosion control agent to our water within 30 to 60 days with expedited approval from the Michigan Department of Environmental Quality is already underway. This will reduce corrosion which can cause lead in old pipes to leach into the water.

This plan is in addition to Mayor Walling's letter requesting $30 Million in water infrastructure assistance funding from the State of Michigan. $10 Million of that request would be for the replacement of lead service lines in households to ensure that lead no longer presents a danger to the drinking water of our residents. As the letter states, "It is the City's position that the abatement of lead through the removal of lead containing pipes and fixtures in homes is the best long term solution to keeping our residents' water safe."

Mayor Walling further stated: "I am extremely concerned about the risks around lead with Flint's children and I will be working tirelessly to ensure the water is safe and all of our families have the information they need. I also will continue to pursue funding for infrastructure improvements and a comprehensive healthy homes initiative that addresses lead in paint and pipes. We have to get the lead out of our community to eliminate the threat of childhood lead poisoning."

The City of Flint continues working proactively with the County Health Department, the Michigan Department of Environmental Quality, and the U.S. Environmental Protection Agency to improve the water system throughout the City. The City remains committed to working with all of our partners in the Water Technical Advisory Committee to address all

issues of public health and quality concerns that face the community. Updates on progress made in addressing this issue will be made during regular public meetings including City Council and other scheduled meetings. Information on this and all related matters will continue to be posted on the City of Flint's website, cityofflint.com.

–END–

From:	Lasher, Geralyn (DCH)
Sent:	Friday, September 25, 2015 4:47 PM
To:	Muchmore, Dennis (GOV);Clement, Elizabeth (GOV);Lyon, Nick (DCH);Wyant, Dan (DEQ)
Cc:	Wurfel, Brad (DEQ);Wisniewski, Wendy (GOV);Grijalva, Nancy (DCH);Hertel, Elizabeth (DCH)
Subject:	Update
Attachments:	Lead Advisory Release.pdf; BLLs in Flint v2.pptx; FINAL Flint Lead TP 092415.docx

Quick recap on the interactions this week from the MDHHS side on the Flint water issue.

Today the City of Flint issued the attached "Lead Advisory" for residents to be aware of lead levels in drinking water and issued suggestions from the Genesee County Health Department as to what residents could do to reduce risk. These include:
-- flushing cold-water pipes by running water for approximately 5 minutes,
--using only water from the cold-water tap for drinking, cooking and making baby formula
--installing a water filter that is NSF-certified for lead removal.

We worked with the Genesee County Health Department throughout the week to get them in a more pro-active mode to provide this guidance publicly and to encourage citizens to have the City test their water if they were concerned about the quality of water at their home. The health department also issued this fact sheet http://www.gchd.us/docs/Popular_Pages/GCHD_Lead_in_Water_Fact_Sheet_2_.pdf on Thursday providing additional information on the issue.

MDHHS epidemiologists continue to review the "data" provided by a Hurley hospital physician that showed an increase in lead activity following the change in water supply. While we continue to review this data, we have stated publicly that Hurley conducted their analysis in a much different way than we do at the department. Hurley used two partial years of data, MDHHS looked at five comprehensive years and saw no increase outside the normal seasonal increases. The Hurley review was also a much smaller sample than MDHHS data as ours includes all hospital systems in Flint as well as outside laboratories.

We have also provide the attached data chart that outlines if the elevated blood lead levels were being driven by a change in water, we would have seen the elevated levels remain high after the change in water source.

We have also communicated that for WIC beneficiaries in Flint with documentation of unsanitary water, they may be able to receive ready to feed formula and have encouraged families to contact WIC to see if they are eligible for this formula. SNAP beneficiaries are able to purchase bottled water with their SNAP funds.

Talking points from MDHHS are attached as well.

Thank you,
G

Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Jason Lorenz
Public Information Officer
Office: (810) 237-2039
Cell: PPI
jlorenz@cityofflint.com

For Immediate Release

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The Genesee County Health Department has issued a fact sheet regarding lead precautions for residents. The fact sheet can be found on their website at www.gchd.us. Here are a few of the suggestions the Health Department recommends:

- Flush your cold-water pipes by running the water for approximately 5 minutes
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Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

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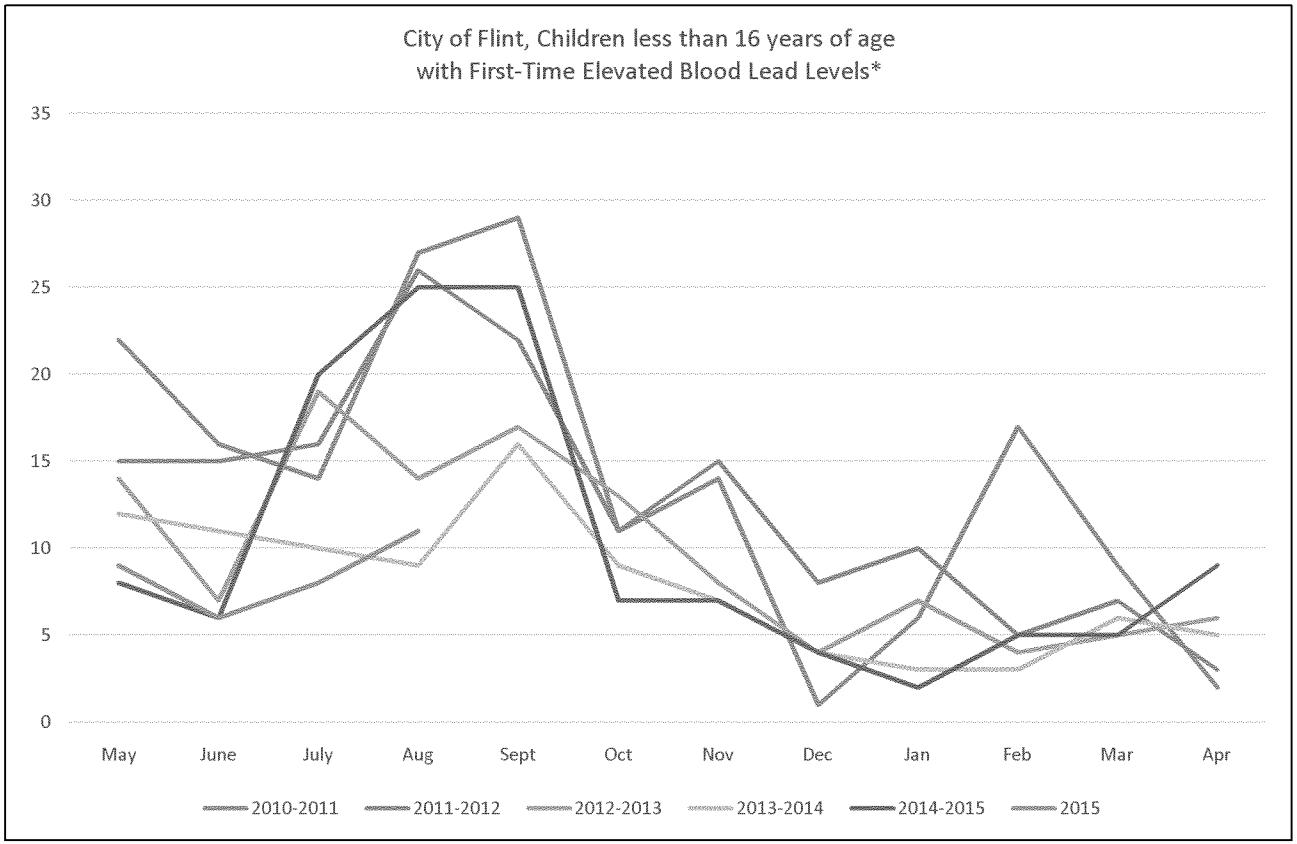
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issues of public health and quality concerns that face the community. Updates on progress made in addressing this issue will be made during regular public meetings including City Council and other scheduled meetings. Information on this and all related matters will continue to be posted on the City of Flint's website, cityofflint.com.

–END–

Blood Lead Testing of Children in Flint, Before and After the Change in Flint's Water

- The change in Flint's water source occurred in April 2014. MDHHS looked at children's blood lead levels (BLL) before and after this event.
- The dark blue line (May 2014 – April 2015) and the green line (May-August 2015) reflect children's blood lead tests after the change. All other lines reflect tests before the change.
- An increase in childhood lead poisoning in summer (July, August, September) is typical throughout Michigan every year.
- While there is a dramatic difference between the numbers of elevated BLL in the summer before and after the event, a wider look that includes data back to 2010 shows that the year BEFORE the event (the yellow line) was more of an anomaly than the year after (the dark blue line).
- If elevated BLL were being driven by the change in water, we would expect the dark blue line to stay high rather than follow the seasonal pattern.
- All data included in this analysis were reported by laboratories directly to MDHHS, in accordance with State law.



*This graph includes:

Children whose address is listed as "Flint"--may not conform exactly to Flint city limits

Children less than 16 years of age at time of test

Only first-time blood lead levels >= 5 ug/dL

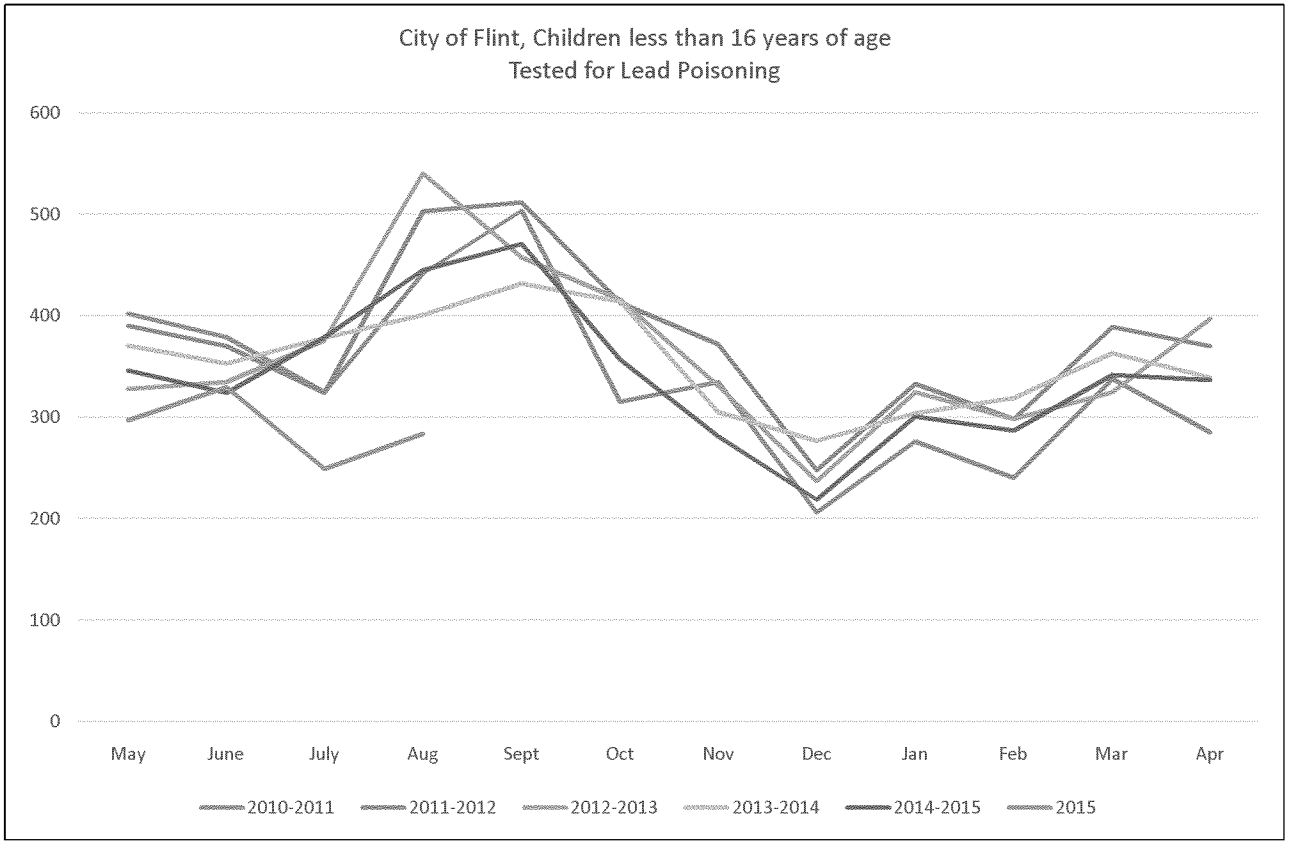
All first-time elevated levels, regardless of sample type (venous, capillary or unknown)

September 24, 2015

Source: MDHHS Data Warehouse, Lead Specimen table

Blood Lead Testing of Children in Flint, Before and After the Change in Flint's Water

- Blood lead testing (regardless of elevated levels) also tends to rise during late summer (August, September, October).
- This graph shows that testing in Flint has remained fairly steady over the last five years, except for a recent decline(May – August 2015).



*This graph includes:

Children whose address is listed as "Flint"--may not conform exactly to Flint city limits

Children less than 16 years of age at time of test

The number of children tested within each month.

Some children are tested more than once, and may be included in more than one month or year.

September 24, 2015

Source: MDHHS Data Warehouse, Lead Specimen table

This Document is a Non-Responsive Attachment.

Blood Lead Levels in Flint Talking Points
September 24, 2015

- Promoting the health of our residents is a statewide priority – a priority that includes ensuring clean, safe drinking water for all residents and especially children.
- The results of the Hurley Children's Hospital are under review by the Michigan Department of Health and Human Services.
- The analysis that Hurley conducted is different from the way MDHHS has analyzed data regarding blood lead levels in Flint.
- MDHHS is looking to see if we can replicate the results of the Hurley study to see how they achieved their results.

MDHHS Blood Lead Testing Results in Flint

- MDDHS data shows a comprehensive look at the data since 2010, years before the change in Flint's water source occurred in April 2014.
- Each year shows a seasonal increase in childhood lead poisoning in the summer months, the highest seasonal increase of which occurred in 2010.
- If elevated blood lead levels were being driven by the change in water, we would expect to see the elevated levels remain high after the change in water source, rather than follow the seasonal pattern as they did by decreasing in the fall months.
- All data included in the MDHHS analysis were reported by laboratories directly to MDHHS, in accordance with State Law.

Differences in Analysis

- MDHHS data provides a much more robust picture of the entire blood lead levels for the Flint area, and specifically, accounts for data over the full course of the past five years.
- Looking at the past five years as a whole provides a much more accurate look at the seasonal trends of lead in the area.
- Seasonal exposure is higher in the summer for a variety of reasons including children playing outside in the soil, and when windows are open and lead paint is more likely to be in the air. This seasonal increase would be unrelated to the water system.
- Our data includes children from the entire city, including all medical facilities, rather than just Hurley, has a larger age group of children, and includes a much larger sample size.
- The MDHHS analysis looks specifically at the first elevated blood lead level for each child, which provides an accurate picture of when first exposure occurred.
- The Hurley data includes a smaller sample size, much more limited time period (January-September of 2013 and 2015 only), and a smaller age group of children.

WIC Children

- In homes with infants on WIC, if the household has documentation from an official source of unsanitary water supply issues, that family may be eligible to receive ready-to-feed formula. Families should contact WIC to see if they are eligible.
- Each household would have to be looked at on an individual basis.
- WIC cannot cover bottled water.

From:	Wyant, Dan (DEQ)
Sent:	Tuesday, September 29, 2015 12:06 PM
To:	Wyant, Dan (DEQ);Muchmore, Dennis (GOV);Lyon, Nick (DCH);Hollins, Harvey (GOV);Scott, Allison (GOV)
Cc:	Wurfel, Sara (GOV);Lasher, Geralyn (DCH);Wurfel, Brad (DEQ);Emmitt, Beth (GOV);Clement, Elizabeth (GOV)
Subject:	RE: Proposed Press Conference on Flint Drinking Water
Importance:	High

Revised Updates from yesterday's e-mail to Dennis Muchmore, Harvey Hollins, and Nick Lyons. I have added Allison Scott to give to the Governor for the 1:00 meeting today.
Thank you.
==========
Per the ongoing issues in Flint concerning their drinking water, I would offer the following recommendations. Let's discuss.

Recommendation

Press Conference in Flint - Friday, October 2, 1:30 – Flint

Participants

Mayor of Flint
Dan Wyant – Michigan Department of Environmental Quality
Nick Lyon – Department of Community Health
Susan Hedman – Region 5 Administrator or EPA
Harvey Hollins – Governor's office
Local Public Health Department

Announcement

Federal – State – Local action plan to address Flint Drinking Water

1. Chief Medical Officer speaking with Hurley.
2. All Flint schools water will immediately be tested to ensure that drinking water is safe.
3. Advisories will be disseminated recommending citizens flush your cold water pipes, use only water from the cold water tap for drinking, cooking and especially for making baby formula.
4. Implementation of fully optimized corrosion controls in the Flint drinking water system.
5. Expanded water testing of at risk properties.
6. Offer water testing at no cost to Flint residents to assure water is safe.

7. Convene a safe drinking water " Technical Review Advisory" to ensure best technology, practices and science is being utilized, including EPA's expertise and assistance from their Office of Research and Development.

8. Offer bottled water and premixed formula if test results indicate high levels of lead.

9. Accelerate water system improvements to address replacement of lead service lines.

Dan Wyant, Director
Department of Environmental Quality
517-284-6700 (New Number)

From: Dayne Walling <dwalling@cityofflint.com>
Sent: Tuesday, September 29, 2015 2:07 PM
To: Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: Fwd: FW: Update - Public Health Advisory issued by Genesee County Health Department
Attachments: water.pdf

latest from the county health dept

---------- Forwarded message ----------
From: **Kirk Smith** <ksmith@flint.org>
Date: Tue, Sep 29, 2015 at 1:05 PM
Subject: FW: Update - Public Health Advisory issued by Genesee County Health Department
To: Kirk Smith <ksmith@flint.org>

Greater Flint Health Coalition Board of Directors:

Following up on prior email updates, the Genesee County Health Department today issued the attached public health advisory for people using the city of Flint water supply. This is in addition to the City's lead advisory that was issued on Friday. Please review.

Kirk D. Smith, MHSA
President & CEO
Greater Flint Health Coalition
(810) 232-2228
ksmith@flint.org
http://www.gfhc.org
http://www.commit2fit.com

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--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com

www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling

Genesee County Board of Commissioners

1101 BEACH STREET, ROOM 312 FLINT, MICHIGAN 48502

TELEPHONE: (810) 257-3020

FAX: (810) 257-3008

COMMISSIONERS:

BRYANT HOLDEN

BRENDA CLACK

JAMIE W. CURTIS

JOHN NORTHRUP

MARK YOUNG

TONY BROWN

MICHAEL LYNCH

September 29, 2015

Public Health Advisory for People Using the Flint City Water Supply with the Flint River as the Source

Lead is a powerful neurotoxin, which means exposure to lead can damage the brain. It can also injure other soft tissues and organs; interfere with the formation of blood, and exposure to enough lead can be fatal. Both children and adults are vulnerable to leads health effects.

Common Health Effects on Children:

- Brain damage resulting in IQ loss, learning disabilities, hyperactivity, inability to concentrate, and/or behavior problems
- Stunted growth
- Hearing problems

Common Health Effects on Adults:

- Hypertension
- Anemia
- Reduced sperm count
- Increased risk of miscarriages

Young children are most vulnerable to leads effects because prior to age six, their brain and central nervous system are still forming and easily susceptible to damage. For an adult to suffer significant health effects, exposure to lead would have to be sustained and more intense. Most adults who are affected by lead have been exposed in an occupational setting, such as working as a house painter or in a battery recycling plant.

Pregnant women are at special risk because the lead they absorb crosses the placenta and enters the fetus.

It's important to remember that there is no known safe level of lead in a human body. Experts now use a reference level of 5 micrograms per deciliter to identify children with blood lead levels that are much higher than most children's levels. This new level is based on the U.S. population of children ages 1-5 years who are in the highest 2.5% of children when tested for lead in their blood.

Lead in water can contribute to a child's blood lead level. The Michigan Department of Environmental Quality, which regulates municipal water supplies, has assured us that the water leaving the Flint Water Plant meets all Federal and state requirements. The City of Flint has a documented problem with lead in its drinking water due to service and household lines that may contain lead or lead solder which can leach lead because of the corrosivity of the water since changing to the Flint River as the source supply. Generally, those who are most vulnerable to leads health effects from exposure to unfiltered tap water are the very youngest children. For this reason, if you are not sure about the lead content in your tap water, it's best to either use a filter that has been found to be effective for reducing or eliminating lead, or to use bottled water instead. Water filters should be National Sanitation Foundation (NSF) certified to remove lead and meet ANSI standard 53. If these options are not available to you, then it's best to let the water run for at least five minutes before using it for either drinking or cooking purposes. Always use cold water instead of hot water for drinking and cooking.

It's best to avoid using tap water for mixing infant formula unless you can assure your water is lead free.

Other Exposure:

When leaded gasoline was in widespread use in this country, the lead came out the tail pipe and was deposited in yards near the roads. That lead may still be in those yards. In addition, lead paint continues to be a major source of childhood lead poisoning and can be found in homes built before 1978 when lead paint was banned in the U.S. and may be a hazard inside and outside the home especially where paint is worn or flaking.

There are many other potential sources of lead exposure, including:

- "Home remedies" and cosmetics imported from other countries
- Tamarind or chili-based candies from Mexico
- Stained glass windows
- Fishing sinkers
- Firing ranges
- Old, deteriorated mini-blinds
- Bean pots and painted ceramics
- Crystal decanters
- Lead crystal glassware

Since no safe level has been identified it is in everyone's interest to reduce exposure to lead as much as possible. Recommendations on ways to reduce lead exposure can be found on the Genesee County Health Department website www.gchd.us and Center for Disease Control and Prevention website.

Recent data provided by Hurley Hospital researchers has indicated that a significant increase in blood lead levels has occurred in children since the switch to Flint River water. The county Health Officer has requested that the Michigan Department of Health and Human Services (MDHHS) provide to the County specific data to support its claim that state data is more comprehensive and does not show a significant increase. To date, the MDHHS has failed to confirm the geographic area included in their findings. We want to assure the state data is specific to the boundaries of the City of Flint, and not Flint addresses which would include addresses in areas outside of the City of Flint. These areas, such as Flint Township, that obtain their water from the Detroit Water Authority and would, therefore, not be representative of Flint River water as the water source. The County is prepared to take further action if the State fails to provide the requested data by September 30, 2015. Further action could include a request for outside independent evaluation of the data and to declare a Public Health Emergency in Flint.

COUNTY OF GENESEE

BY: _____ Date: 9-29-15

Jamie Curtis, Chairperson
Board of Commissioners

GENESEE COUNTY HEALTH DEPARTMENT

BY: Mark Valacak Date: 9-29-15

Mark Valacak, M.P.H.
Health Officer

From: Tommasulo, Karen (DEQ)
Sent: Wednesday, September 30, 2015 5:24 PM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Busch, Stephen (DEQ)
Subject: media Qs
Attachments: Media Q&A.docx

Karen Tommasulo
Public Information Officer
Michigan Department of Environmental Quality
517-284-6716 | 517-599-5733
tommasulok@michigan.gov

Flint Drinking Water
Media Q&A

Is the city going back to DWSD?
That's something we're leaving open. It's certainly an option, but there are no moves at this time to do so. If it becomes something city leadership is interested in doing, the state is willing to act as a facilitator between Flint and DWSD to help come to conclusion that's best for the residents of Flint.

How did the state not see this problem sooner?
Right now, we're focusing on addressing the problem at hand. Every household in the city of Flint is going to receive a water filter. The Flint Water Treatment Plant is going to fully optimize its corrosion controls by Nov. 1. And we're going to accelerate water system improvements to address the replacement of lead service lines.

In the long term, we will work with the U.S. EPA to look at water testing protocol.

Is the water safe?
The water leaving the Flint Water Treatment Plant is safe to drink and meets federal guidelines for lead. However, we recognize some residents experience higher levels of lead in the water that comes out of their faucets because of lead plumbing in the home. We will expand water testing to better determine which areas have a problem; however, in the meantime, every home will receive a filter to ensure their drinking water is safe.

Does this mean Marc Edwards was right?
We aren't familiar with his testing protocol and have not seen his data. All we know is the state's data and the data Hurley Medical Center provided indicate a need to take action.

Why didn't you require corrosion controls from day one?
When the city switched water sources, they did begin using lime softening as a corrosion control. DWSD used phosphates, which is another form of corrosion control, but far from the only one. Flint was within federal protocols when it chose to use lime, and this is consistent with what every other community was required to do.

With more data in hand, the city can now work to optimize their corrosion control system, and has pledged to do so by Nov. 1.

How do you feel about the state and federal testing protocols now that you know there was a problem?
We're going to be taking a look at that, and that's why Susan Hedman is here today. What we're seeing is concerning. But in the meantime, we're going to…

Why are you requiring optimization now?
What will you do if the schools you are testing come back with lead?
Is the Governor going to give the city the $30 million it asked for? Or the $13 million state Sen. Ananich wants to include in the budget?
Why did the state ignore city residents who have been saying there's a problem for six months?
Why did the Governor hide the fact that he was involved in distributing filters previously?
Will you meet with Marc Edwards?
Do you trust the city's data?
Why did the state allow the city to switch away from DWSD initially?
Has the city put residents at risk?
What will the state do about my children? Lead poisoning causes irreversible damage.
Is lead just a problem in Flint?
Why isn't the Governor here today?
Does the Flint River have lead? Is it more corrosive than the water from DWSD?
If the lead is in individual homes' plumbing, how long will it take to fix this problem? Will the move to KWA fix it, or will we still see lead?
Will testing start over when we move to KWA?
Why aren't Kildee and Ananich here?
How much are we paying all these new consultants – Dr. Wells and the EPA expert?

From: Wyant, Dan (DEQ)
Sent: Wednesday, September 30, 2015 7:44 PM
To: Busch, Stephen (DEQ);Wurfel, Brad (DEQ);Sygo, Jim (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: MDEQ - EPA call tomorrow on methodological issues

Sent from my iPhone

Begin forwarded message:

> **From:** "Hedman, Susan" <hedman.susan@epa.gov>
> **Date:** September 30, 2015 at 7:23:33 PM EDT
> **To:** "wyantd@michigan.gov" <wyantd@michigan.gov>
> **Cc:** "Burke, Thomas" <Burke.Thomas@epa.gov>
> **Subject: MDEQ - EPA call tomorrow on methodological issues**
>
> Hi Dan –
>
> I am writing to follow up on our conversation regarding methodological issues that MDEQ and MDHSS may face in connection with some of the sampling activities planned in Flint – and would like to schedule a call tomorrow morning that includes US EPA experts who would be able to address these topics in detail. I am cc-ing Tom Burke in the hope that he will let us know when he can get the right people together for this discussion.
>
> Thanks,
>
> Susan
>
> Susan Hedman
> Region 5 Administrator/Great Lakes National Program Manager
> U.S. Environmental Protection Agency
> 77 West Jackson Blvd - 19th Floor
> Chicago, Illinois 60604-3590

From: Tommasulo, Karen (DEQ)
Sent: Thursday, October 01, 2015 5:12 PM
To: Wurfel, Sara (GOV);Wurfel, Brad (DEQ);Murray, David (GOV);Pallone, Maggie (DEQ);Wyant, Dan (DEQ)
Subject: media q&a
Attachments: Media Q&A.docx

Here's the media Q&A as it stands. The first several have written responses, but there's a large list at the end that do not.

Karen Tommasulo
Public Information Officer
Michigan Department of Environmental Quality
517-284-6716 | 517-599-5733
tommasulok@michigan.gov

Flint Drinking Water
Media Q&A

Is the city going back to DWSD?
That's something we're leaving open. It's certainly an option, but there are no moves at this time to do so. If it becomes something city leadership is interested in doing, the state is willing to act as a facilitator between Flint and DWSD to help come to conclusion that's best for the residents of Flint.

How did the state not see or fix this problem sooner?
Right now, we're focusing on addressing the problem at hand. Every household in the city of Flint is going to receive a water filter. The Flint Water Treatment Plant is going to fully optimize its corrosion controls by Nov. 1. And we're going to accelerate water system improvements to address the replacement of lead service lines.

In the long term, we will work with the U.S. EPA to look at water testing protocol.

Is the water safe?
The water leaving the Flint Water Treatment Plant is safe to drink and meets federal guidelines for lead. However, we recognize some residents experience higher levels of lead in the water that comes out of their faucets because of lead plumbing in the home. We will expand water testing to better determine which areas have a problem; however, in the meantime, every home will receive a filter to ensure their drinking water is safe.

Does this mean Marc Edwards was right?
We aren't familiar with his testing protocol and have not seen his data. All we know is the state's data and the data Hurley Medical Center provided indicate a need to take action.

Why didn't you require corrosion controls from day one?
When the city switched water sources, they did begin using lime softening as a corrosion control. DWSD used phosphates, which is another form of corrosion control, but far from the only one. Flint was within federal protocols when it chose to use lime, and this is consistent with what every other community was required to do.

With more data in hand, the city can now work to optimize their corrosion control system, and has pledged to do so by Nov. 1.

How do you feel about the state and federal testing protocols now that you know there was a problem?
We're going to be taking a look at that, because what weren't seeing is concerning. But in the meantime, we're going to…

Why are you requiring optimization now?
What will you do if the schools you are testing come back with lead?
Is the Governor going to give the city the $30 million it asked for? Or the $13 million state Sen. Ananich wants to include in the budget?
Why did the Governor and the state ignore city residents who have been saying there's a problem for six months?
Why did the Governor hide the fact that he was involved in distributing filters previously?
Will you meet with Marc Edwards?
Do you trust the city's data?
Why did the Governor allow the city to switch away from DWSD initially?
Has the city/Governor put residents at risk?
What will the state do about my children? Lead poisoning causes irreversible damage.
Is lead just a problem in Flint?
Why isn't the Governor here today?
Does the Flint River have lead? Is it more corrosive than the water from DWSD?
If the lead is in individual homes' plumbing, how long will it take to fix this problem? Will the move to KWA fix it, or will we still see lead?
Will testing start over when we move to KWA?
Why aren't Kildee and Ananich here?
How much are we paying all these new consultants – Dr. Wells and the EPA expert?
Did the DEQ provide any advice to the emergency manager about the switch from DWSD?
How long has lead been a problem in Flint? If the problem is in people's home, does that mean they have always been poisoned by this?
Why aren't you declaring a state of emergency?
Why aren't you providing bottled water?
How long does it take for the system to be fully optimized once the corrosion control treatment begins?

Subject:	Hold the Day for Flint (1:30)
Location:	Kettering University, 1300 Bluff Street, Flint 48505
Start:	Fri 10/2/2015 7:00 AM
End:	Fri 10/2/2015 4:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Thelen, Mary Beth (DEQ)
Required Attendees:	Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Wyant, Dan (DEQ); Tommasulo, Karen (DEQ); Shaw, Eric (DEQ); Krisztian, George (DEQ); 'Sygo, Jim (DEQ) (SygoJ@michigan.gov)'; Benzie, Richard (DEQ)
Optional Attendees:	Shaler, Karen (DEQ); Feuerstein, Heather (DEQ); Pallone, Maggie (DEQ); Shekter Smith, Liane (DEQ); Devereaux, Tracy Jo (DEQ)

Sending meeting notice to DEQ participants.

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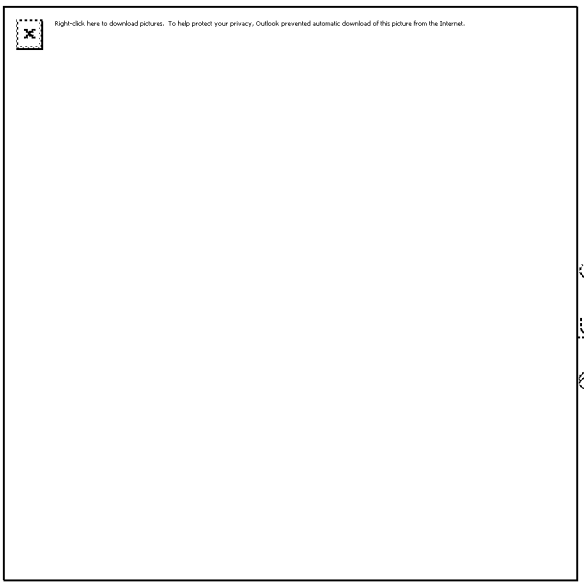
Oct. 1, 2015

Michigan leaders to announce action plan for Flint drinking water

Friday, Oct. 2 at 1:30 p.m.
Local, state and federal leaders will host a press conference to announce a comprehensive action plan for addressing drinking water concerns in Flint. Participants will include:
• Harvey Hollins, Director of the Office of Urban Initiatives for Gov. Rick Snyder
• Dan Wyant, Director for the Michigan Department of Environmental Quality
• Nick Lyon, Director for the Michigan Department of Health and Human Services
• Dr. Eden Wells, Chief Medical Executive for the Michigan Department of Health and Human Services
• Dayne Walling, Mayor of Flint
• Other local, state and federal officials

Location:
Kettering University, Innovation Center
1300 Bluff St.
Flint, MI 48504

This is a media event open to credentialed news media only. Media who plan to attend this event should RSVP by noon Friday. Contact Rosemarie Olszewski at 517-284-6700 or olszewskir@michigan.gov.



Questions?
Contact Us
Ph: 800-652-9278

From: Stanton, Terry A. (Treasury)
Sent: Thursday, October 01, 2015 7:38 PM
To: Wyant, Dan (DEQ)
Cc: Wurfel, Brad (DEQ);Wurfel, Sara (GOV);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ);Murray, David (GOV);Lasher, Geralyn (DHHS)
Subject: Re: Media QA

Would suggest the following edits...

Did the DEQ provide any advice to the emergency manager about the switch from DWSD?
The state was opposed to Flint leaving DWSD – not because of concerns about water quality, but because at the time the city of Detroit was working through its bankruptcy and the state felt the move would incur more expenses for both Detroit and Flint. The the-emergency manager, mayor and city council approved the move to KWA and the state approved the transition. Following the city's decision to move to KWA, DWSD canceled flints contract effective April of 2014. The city faced limited options for its water source following the cancellation of its DWSD contract.

On Oct 1, 2015, at 7:12 PM, Wyant, Dan (DEQ) <WyantD@michigan.gov> wrote:

> Looks great. Only one edit from me. Take out "there is no move to do so" in first question. City has approached Great Lakes Water authority.
>
> Sent from my iPhone
>
> On Oct 1, 2015, at 6:55 PM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:
>
> > Got a couple questions in here related to the Governor specifically, so please have a look and help me make sure it's right before we call this final, but here's the media Q&A.
> > Also, Terry please have a look at one of the later questions about the historic sequence. I think I captured the decision on leaving DWSD, but if you've got an official recollection, please provide.
> > Thanks.
> >
> > b
> >
> > <Media QA.docx>

From: Wyant, Dan (DEQ)
Sent: Thursday, October 01, 2015 8:21 PM
To: Muchmore, Dennis (GOV);Lyon, Nick (DHHS);Hollins, Harvey (GOV)
Cc: Wurfel, Brad (DEQ);Brown, Eric (GOV);Pallone, Maggie (DEQ);Wurfel, Sara (GOV)
Subject: Fwd: Flint drinking water
Attachments: Emergency SDWA Petition.pdf; ATT00001.htm

Law suit filed today against EPA. Susan Hedman called off from D.C. Will not be attending press conference.

Sent from my iPhone

Begin forwarded message:

> **From:** "Stanfield, Rebecca" <rstanfield@nrdc.org>
> **Date:** October 1, 2015 at 5:29:48 PM EDT
> **To:** "wyantd@michigan.gov" <wyantd@michigan.gov>
> **Cc:** "Henderson, Henry" <hhenderson@nrdc.org>
> **Subject: Flint drinking water**
>
> Hello Dan: Attached please find our emergency SDWA petition to U.S. EPA regarding the Flint situation. Here's a link to the release: http://www.nrdc.org/media/2015/151001a.asp Henry Henderson, NRDC's Midwest Director is the person to contact about this. He's at hhenderson@nrdc.org and is cc'd here.
>
> Rebecca Stanfield
> Deputy Director
> Midwest Program
>
> Natural Resources
> Defense Council
> 20 N. Wacker Drive, Suite 1600
> Chicago, IL 60606
> T 312.651.7910
> M 773.454.0155
> rstanfield@nrdc.org
> @https://twitter.com/rdstanfieldNRDC
> NRDC.ORG
>
> Please save paper.
> Think before printing.

BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Petition for Emergency Action under the Safe Drinking Water Act, 42 U.S.C. § 300i, to Abate the Imminent and Substantial Endangerment to Flint, Michigan Residents from Lead Contamination in Drinking Water

---

Submitted on Behalf of Petitioners Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and the Natural Resources Defense Council

October 1, 2015

Notice of Petition

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, DC 20460

Susan Hedman
Regional Administrator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604-3507

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1. Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live (Apr. 25, 2014)

2. Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Department (Mar. 7, 2014)

3. Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People's Skin to Erupt in Rashes and Hair to Fall Out*, The Nation (July 16, 2015)

4. Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post (July 10, 2015)

5. Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America (Apr. 3, 2015)

6. Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live (Sept. 5, 2014)

7. Robin Erb, *Who wants to drink Flint's water?*, Detroit Free Press (Jan. 23, 2015)

8. Michigan Department of Environmental Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014)

9. U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water

10. Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015)

11. Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015)

12. Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015)

13. Brianna Owczarzak, *GM says no to Flint water*, WNEM (Oct. 14, 2014)

14. U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013)

15. U.S. EPA, Basic Information About Lead in Drinking Water (last updated June 26, 2015)

16. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015)

17. City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015)

18. H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013)

19. Complaint, *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015)

20. Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live (Aug. 31, 2015)

21. Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live (Aug. 31, 2015)

22. William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live (Feb. 14, 2015)

23. AP, *Flint city councilman: 'We got bad water,'* Detroit Free Press (Jan. 14, 2015)

24. Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015)

25. Letter from U.S. Representative Dan Kildee, U.S. Representative, to Administrator Gina McCarthy, U.S. EPA, & Director Dan Wyant, MDEQ (Sept. 9, 2015)

26. *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015)

27. Siddhartha Roy, Flint Water Study Updates for the Citizens of Flint (Sept. 15, 2015)

28. Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live (Sept. 15, 2015)

29. *Lead testing results for water sampled by residents,* Flint Water Study (last visited Sept. 28, 2015)

30. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (Mar. 18, 2015)

31. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015)

32. Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015)

33. Mich. Dep't of Envtl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015)

34. Drinking Water Lead & Copper Sampling Instructions

35. Memorandum from Miguel A. Del Toral, Regulations Mgmr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015)

36. U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010)

37. Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008)

38. MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015)

39. Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991)

40. Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014)

41. Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013)

42. U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005)

43. Lead in Drinking Water, Wisc. Dep't of Nat. Res. (2008)

44. Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 Clinical Pediatrics (8) (1989)

45. Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 Environ. Health Perspect. (1) (2008)

46. CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly 268 (Apr. 2, 2004)

47. Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water,* 48 Envtl. Sci. & Tech. 739 (2013)

48. Email from Jennifer Crooks, U.S. EPA, to Mike Prysby (Feb. 26, 2015)

49. Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation)

50. Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press (Sept. 29, 2015)

51. Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013)

52. American FactFinder, 2009-2013 American Community Survey 5-year Estimates, Flint, Michigan and State of Michigan

53. American Cancer Society, *Lead, Lead in the Environment* (last updated May 27, 2014)

54. 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013)

55. CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977)

56. Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live (Mar. 28, 2014)

57. Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015)

58. Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015)

59. Email from Michael Glasgow (June 1, 2015)

60. City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015)

61. Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015)

62. Letter from MDEQ to MI State Senators (Sept. 17, 2015)

63. *Did this Michigan Town Poison its Children?*, U.S. News & World Report (Sept. 24, 2015)

64. Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live (Sept. 10, 2015)

65. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live (Sept. 3, 2015)

66. Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live (Sept. 25, 2015)

67. U.S. Census Bureau, American FactFinder, 2010 Demographic Profile Data, Flint Michigan

68. 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics, Flint, Michigan

69. Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by $35,* Michigan Live (June 1, 2014)

70. Ron Fonger, *Judge orders Flint to cut water rates 35 percent in sweeping injunction*, Michigan Live (Aug. 7, 2015)

71. U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011)

72. U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010)

The residents of Flint, Michigan have been and continue to be exposed to dangerous levels of lead in their drinking water. Monitoring results confirm that, in many instances, these levels are well above the threshold set by the U.S. Environmental Protection Agency (EPA) that triggers mandatory corrective action by public water systems. The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have failed to address this public health crisis, despite their awareness of these monitoring results and data showing increasing blood lead levels in children residing in Flint.

The Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and Natural Resources Defense Council (collectively, Petitioners) petition EPA to use its emergency powers under the Safe Drinking Water Act (SDWA or the Act), 42 U.S.C. § 300i, to take action to abate the imminent and substantial endangerment to human health caused by lead contamination in Flint's drinking water. As Petitioners demonstrate below, this contamination meets the SDWA requirements for immediate action by EPA and requires a comprehensive federal response.

I. Background

Water-quality problems have plagued Flint's water system since at least April 2014, when the City began using the Flint River as its water source after deciding not to continue purchasing water from Lake Huron through the Detroit Water and Sewerage Department, as it had done for nearly fifty years.[1] In the eighteen months since the switch to Flint River water, the City's drinking water has been at times discolored, foul smelling, and "laden with sediments."[2] Residents report that they have experienced hair loss, skin rashes, and vomiting after drinking the water.[3] In the summer of 2014, the City was forced to issue several boil-water notices after tap water tested positive for total coliform bacteria, which

---

[1] *See* Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live, Apr. 25, 2014, http://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html (attached as Ex. 1); Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Dep't (Mar. 7, 2014) (explaining that the City "has actively pursued using the Flint River as a temporary water source" instead of accepting Detroit's offer to "provide[] Flint with the option of continuing to purchase water from DWSD") (attached as Ex. 2).

[2] *See* Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People's Skin to Erupt in Rashes and Hair to Fall Out*, The Nation, July 16, 2015, http://www.thenation.com/article/in-flint-michigan-overpriced-water-is-causing-peoples-skin-to-erupt-and-hair-to-fall-out/ (attached as Ex. 3); Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post, July 10, 2015, http://www.huffingtonpost.com/wenonah-hauter/flints-brown-water-blues_b_7765132.html (attached as Ex. 4).

[3] Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America, Apr. 3, 2015, http://america.aljazeera.com/articles/2015/4/3/flint-residents-find-state-water-control-hard-to-swallow.html (attached as Ex. 5).

suggested a possible "pathway for pathogens and fecal contamination" to enter the water system.[4]

The City's subsequent treatment of the water to kill disease-carrying pathogens resulted in elevated levels of total trihalomethanes (TTHM), a byproduct of disinfection.[5] Drinking water with TTHM levels that exceed the federal limit can cause "liver, kidney, or central nervous system problems and increased risk of cancer."[6] In response to the City's water problems, local hospitals, schools, and museums began using bottled water instead of tap water.[7] Some grocery stores reduced the price of bottled water and "sponsored community giveaways of bottled water to low income residents."[8]

Flint River water is also highly corrosive, causing dangerous amounts of lead to leach out of pipes and into the City's water system.[9] Recent sampling has shown that lead is present in Flint's water system at levels well above 15 parts per billion (ppb), the "action level" for lead under the SDWA.[10] These high lead levels put residents at risk of increased lead exposure, which can cause a broad array of serious, irreversible health effects, including cognitive impairment, decreased red blood cell survival, kidney damage, coronary heart disease, and impaired reproductive function.[11]

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[4] Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live, Sept. 5, 2014, http://www.mlive.com/news/flint/index.ssf/2014/09/flint_issues_boil_water_adviso.html (attached as Ex. 6).

[5] Robin Erb, *Who wants to drink Flint's water?*, Detroit Free Press, Jan. 23, 2015, http://www.freep.com/story/news/local/michigan/2015/01/22/water-woes-latest-hit-flint/22193291/ (attached as Ex. 7); Mich. Dep't of Envtl. Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014) (attached as Ex. 8).

[6] U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm (last updated Dec. 13, 2013) (attached as Ex. 9); *see* 40 C.F.R. § 141.64(b).

[7] Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015), ECF No. 6 (attached as Ex. 10).

[8] *Id.*

[9] Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015), http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/ (attached as Ex. 11); Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015), http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/ (attached as Ex. 12). The river water is so corrosive that in October 2014, a local GM engine plant decided to switch back to Lake Huron water to avoid damage to equipment at the plant from corrosion. Brianna Owczarzak, *GM says no to Flint water*, WNEM, Oct. 14, 2014, http://www.wnem.com/story/26785625/gm-says-no-to-flint-water (attached as Ex. 13).

[10] 40 C.F.R. § 141.80(c)(1).

[11] *See, e.g.*, U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013) (attached as Ex. 14) (summarizing health effects of lead exposure); U.S. EPA, Basic

The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have been aware of independent monitoring results showing exceedingly high lead levels in the City's drinking water for months.[12] Despite increasing public concern about the safety of the City's drinking water, neither the City nor MDEQ has taken the actions necessary to meaningfully address the problem. The City has not implemented *any* measures to treat the highly corrosive Flint River water to reduce the amount of lead leaching from service pipes.[13] And MDEQ refuses to use its enforcement authority under the SDWA or state law to require Flint to employ corrosion control measures or provide alternative safe water supplies.[14]

When state and local authorities fail to adequately address a public health crisis, the SDWA empowers EPA to act. Section 1431 of the Act vests EPA with broad emergency authority to address endangerments to public health from contaminated drinking water. The EPA Administrator may use these emergency powers "upon receipt of information that a contaminant which is present in or is likely to enter a public water system . . . may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons."[15] Once the Administrator receives this information, she may "take such actions as [s]he may deem necessary in order to protect [public] health."[16] These actions "may include (but shall not be limited to) . . . issuing such orders as may be necessary to protect the health of persons who are or may be users of such system (including travelers), including

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Information About Lead in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm (last updated June 26, 2015) (explaining that "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development," and that "[a]dults who drink this water over many years could develop kidney problems or high blood pressure") (attached as Ex. 15); *see also* National Ambient Air Quality Standards for Lead, 80 Fed. Reg. 278, 290 (Jan. 5, 2015).

[12] *See, e.g.*, Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015) (describing "[b]ig worries" for high lead test results at a Flint resident's home) (attached as Ex. 16).

[13] The City's plan to implement corrosion control measures within thirty to sixty days is inadequate to address the ongoing endangerment. *See* City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015), https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/ (attached as Ex. 17).

[14] *See* Mich. Comp. Laws Ann. §§ 325.1015(1) ("When considered necessary for protection of the public health, the department shall notify a supplier of water of the need to make changes in operations, to provide treatment, [or] to make structural changes in existing systems . . . as necessary to produce and distribute an adequate quantity of water meeting the state drinking water standards."), (3) ("If a public water supply poses an imminent hazard to the public health, the department may issue an emergency order immediately, . . . requiring such action as the department determines is necessary to protect the public health.").

[15] 42 U.S.C. § 300i(a).

[16] *Id.*

orders requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment."[17] EPA has, in the past, used its emergency powers to issue orders to provide alternative safe water sources to community members, require public notice of the drinking water hazard, require contributors to the hazard to treat or otherwise mitigate the hazardous conditions, and require additional monitoring and data-collection activities.[18]

As Petitioners demonstrate below, the lead contamination in Flint's drinking water meets the prerequisites that authorize EPA to take emergency action under the SDWA.

II. Interests of Petitioners

Petitioners are community groups and advocacy organizations seeking safe and clean water for all residents in Flint. For instance, the Coalition for Clean Water (Coalition), which includes Concerned Pastors for Social Action, Water You Fighting For, and Democracy Defense League Water Task Force, among other community members, has urged city and state officials for months to address Flint's water-quality problems. The Coalition filed a lawsuit in June 2015 in the Circuit Court for the County of Genesee seeking declaratory, injunctive, and other relief relating to Flint's water-quality problems.[19] In August 2015, Food and Water Watch, Water You Fighting For, and the Coalition for Clean Water collected more than 26,000 signatures on a petition to Mayor Dayne Walling asking the City to end its use of the Flint River as a drinking water source.[20] Community members have also organized marches[21] and met with City Council[22] to raise concerns about the quality of Flint's drinking water. These advocacy activities fueled awareness and concern

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[17] *Id.*

[18] *See* H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013), http://www.epa.gov/region10/pdf/sites/yakimagw/consent_order_yakima_valley_dairies_march2013.pdf (attached as Ex. 18).

[19] Compl., *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015) (attached as Ex. 19).

[20] Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/groups_delivering_26000_signat.html#incart_river (attached as Ex. 20); Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_mayor_accepts_petitions.html (attached as Ex. 21).

[21] William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live, Feb. 14, 2015, http://www.mlive.com/news/flint/index.ssf/2015/02/flint_residents_protest_citys.html (attached as Ex. 22).

[22] AP, *Flint city councilman: 'We got bad water,'* Detroit Free Press, Jan. 14, 2015, http://www.freep.com/story/news/local/michigan/2015/01/14/flint-water-resident-complaints/21743465/ (attached as Ex. 23).

among residents and some elected officials in Flint,[23] but have not resulted in any comprehensive action by the City or the State.

III. Lead present in and likely to continue to enter Flint's water system presents an imminent and substantial endangerment to human health

A. Lead is present in and likely to continue to enter Flint's water system

Flint's residents face ongoing endangerment from lead in their drinking water. Recent sampling data show that dangerously high levels of lead are present in and will likely continue to enter Flint's water system.[24] In August and September 2015, Dr. Marc Edwards, a water resources engineering professor at Virginia Tech, tested 252 drinking water samples collected from Flint residences. Edwards found that *ten percent* of these samples had lead levels of 25 ppb or more, substantially in excess of the federal action level of 15 ppb.[25] Several samples exceeded 100 ppb, and one sample exceeded 1000 ppb.[26] Edwards' sampling data show that lead—a contaminant under the SDWA[27]—is present in Flint's water system.

The results of Edwards' testing are even more concerning because the sampling did not target high-risk residences, as the City is required to do under the Lead and Copper Rule.[28] Because lead levels in a water system are not evenly distributed, EPA requires monitoring for lead under the SDWA to target high-risk residences, "to better ensure that high levels of lead are detected and that the system institutes treatment that provides

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[23] *See* Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015) (attached as Ex. 24); Letter from U.S. Representative Dan Kildee, U.S. Representative, to Adm'r Gina McCarthy, U.S. EPA, and Director Dan Wyant, MDEQ (Sept. 9, 2015) (attached as Ex. 25).

[24] Flint's water system is a "public water system" for purposes of the SDWA because it provides water for human consumption to more than twenty-five individuals. 42 U.S.C. § 300f(4).

[25] *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015), http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/ (attached as Ex. 26); Siddhartha Roy, Flint Water Study Updates for the Citizens of Flint (Sept. 15, 2015) (attached as Ex. 27); Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live, Sept. 15, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html (attached as Ex. 28).

[26] *Lead testing results for water sampled by residents,* Flint Water Study, http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/ (attached as Ex. 29).

[27] *See* 42 U.S.C. § 300f(6).

[28] 40 C.F.R. § 141.86(a)(3)-(5); 56 Fed. Reg. 26,460, 26,514 (June 7, 1991) (adopting approach that "require[s] water systems to collect samples from high-risk residences that are most likely to have lead problems").

uniform and adequate levels of public health protection."[29] Because targeting high-risk residences "means that the detected levels will likely be higher than if sampling were randomly distributed,"[30] Edwards' data showing a 90th percentile lead level of 25 ppb is particularly alarming given that his sampling protocol would be expected to produce *lower* results than the targeted sampling protocol mandated by the Lead and Copper Rule.

The City's monitoring data confirm that some Flint residents' water contains lead at concentrations above the federal action level. Several samples collected by the City showed lead levels as high as 397 ppb, 25 times the action level.[31] Although the City claims that its data show that the 90th percentile lead concentration is lower than the 90th percentile in Edwards' sampling pool, these differences may be attributable to the sampling methods employed by the City. For instance, the City instructed residents to pre-flush their water for "at least 5 minutes" before collecting the sample.[32] Pre-flushing has the effect of reducing the amount of lead in the sample, which is why one of the key steps residents can take to reduce their lead exposure following discovery of a lead problem is to flush their taps prior to consuming tap water.[33] Pre-flushing in sampling results in "significant underestimation of lead levels in drinking water."[34] Pre-flushing is not included in the collection procedures EPA recommends,[35] and is contrary to the Lead and Copper Rule's intent to use worst-case lead and copper sampling data.[36] Evidence also shows that in the January to June 2015 monitoring period, the City did not use a pre-developed sampling pool that targeted high-

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[29] 56 Fed. Reg. at 26,514.

[30] *Id.*

[31] *See* Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ (Mar. 18, 2015) (referring to sample with lead level at 397 ppb) (attached as Ex. 30); Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015) (referring to samples showing lead levels 22 ppb and 40 ppb) (attached as Ex. 31); Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015) (lead level at 104 ppb) (attached as Ex. 32); *see also* Mich. Dep't of Envtl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015) (showing six samples with lead levels over the action level (attached as Ex. 33).

[32] Drinking Water Lead & Copper Sampling Instructions, *available at* http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf (attached as Ex. 34).

[33] Memorandum from Miguel A. Del Toral, Regulations Mgr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015) (attached as Ex. 35).

[34] *Id.*

[35] U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010) (attached as Ex. 36).

[36] See Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008) ("[W]e believe that [pre-flushing] goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowners in the sample.") (attached as Ex. 37).

risk residences and did not sample sites consistently across monitoring periods.[37] This likewise may have caused the City's sampling results to underrepresent the 90th percentile lead level in the water system.[38]

The lead contamination in Flint's water is likely to continue. As EPA has explained, "[t]he amount of lead in drinking water depends heavily on the corrosivity of the water,"[39] and testing has shown that Flint River water is highly corrosive. Moreover, the City has no treatment program in place to control the corrosive effects of the water on the City's thousands of lead service lines.[40]

B. Lead in drinking water presents an imminent and substantial endangerment to Flint residents

The endangerment to Flint residents from lead in drinking water is both "imminent" and "substantial."[41] The endangerment to community members' health is imminent because the threat "is present *now*."[42] Highly corrosive water in the Flint River has been flowing through lead service lines in Flint's water system for more than a year without any corrosion control treatment, and sampling has already shown the existence of dangerously high levels of lead in residents' tap water.

The seriousness of the potential harms from lead exposure renders the endangerment "substantial" for purposes of the SDWA.[43] The poisonous effects of lead on "virtually every system in the body," and particularly on the developing brains of young children, are well documented.[44] "Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement," effects that are irreversible.[45]

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[37] *See infra* p. 11 & nn. 70-74; 40 C.F.R. § 141.86(a), (b)(4).

[38] *See infra* p. 11-12.

[39] 56 Fed. Reg. 26,460, 26,466 (June 7, 1991).

[40] MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015), https://www.michigan.gov/documents/deq/deq-spotlight-Flint_water_FAQs_500946_7.pdf (stating that Flint has more than 15,000 lead service lines) (attached as Ex. 38).

[41] *Id.* § 300i.

[42] *Meghrig v. KFC Western, Inc.*, 516 U.S. 479, 486 (1996) (interpreting substantial-and-imminent-endangerment provision in RCRA).

[43] *E.g.*, *Me. People's Alliance v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006).

[44] Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991), http://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm (attached as Ex. 39); *see also* 80 Fed. Reg. 278, 290 (Jan. 5, 2015) ("Lead has been demonstrated to exert a broad array of deleterious effects on multiple organ systems."); 56 Fed. Reg. 26,460, 26,467-68 (June 7, 1991).

[45] Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014), http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm (attached as Ex. 40).

The scientific community has not identified *any* threshold of lead in blood below which there are no adverse health impacts.[46]

Increased lead exposure from drinking water is dangerous because "drinking water can make up 20 percent or more of a person's total exposure to lead."[47] For infants whose diet consists of baby formula made with drinking water, lead in drinking water can make up between forty and sixty percent of total lead exposure.[48] Lead levels in drinking water above the federal action level have been associated with an increase in the rate of individuals with elevated blood lead levels.[49] Exposure to lead-contaminated drinking water has also been associated with fetal death and reduced birth rates.[50] As EPA has recognized, "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development."[51] In short, there is no safe level of lead in drinking water.[52]

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[46] Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013), http://www.cdc.gov/biomonitoring/Lead_FactSheet.html ("No safe blood lead level has been identified.") (attached as Ex. 41).

[47] U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005), http://www.epa.gov/safewater/schools/pdfs/lead/qrg_lcr_schools.pdf (attached as Ex. 42).

[48] Lead in Drinking Water, Wisc. Dep't of Nat. Res. 2008), http://dnr.wi.gov/topic/drinkingwater/documents/forms/lead.pdf (attached as Ex. 43). Several cases have also been reported in which infant formula constituted from lead-contaminated tap water was determined to be the sole cause of childhood lead poisoning. *See, e.g.*, Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 Clinical Pediatrics (8) 380, 381 (1989) (attached as Ex. 44).

[49] Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 Environ. Health Perspect. (1) 1285-93 (2008), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569084/ (attached as Ex. 45); CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly (No. 12) 268-70 (Apr. 2, 2004), *available at* http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5312a6.htm (attached as Ex. 46).

[50] Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water,* 48 Envtl. Sci. & Tech. 739-40 (2013), *available at* http://pubs.acs.org/doi/pdf/10.1021/es4034952 (attached as Ex. 47).

[51] U.S. EPA, Basic Information about Lead in Drinking Water, *supra* note 11.

[52] *See* Email from Jennifer Crooks, U.S. EPA, to Mike Prysby, MDEQ (Feb. 26, 2015) ("[T]here are no safe levels of lead in drinking water.") (attached as Ex. 48); City of Flint Issues Lead Advisory, *supra* note 13 (recognizing that "no level of lead is considered safe"). Because no safe level of lead in blood has been identified, EPA promulgated a Maximum Contaminant Level Goal for lead in drinking water of *zero*, reflecting EPA's determination that a threshold of zero lead in drinking water is the level at which "no known or anticipated adverse effects" on human health will occur, allowing for a margin of safety. *See* 40 C.F.R. §§ 141.2, 141.51(b).

Petitioners have reason to be concerned about the health impacts of increased exposure to lead in drinking water. A recent study conducted by researchers at Flint's Hurley Medical Center found that the rate of Flint children with elevated blood lead levels is rising. An analysis of 1746 Flint children under five years old showed that the proportion of children with elevated blood lead levels has *doubled* in the time since the City changed its drinking water source.[53] The study found that the rate of elevated blood lead levels in children under fifteen months is 2.5 times greater after the switch to Flint River water than the rate before the switch.[54] The study found no corresponding statistically significant increase in the rate of elevated blood lead levels of children living in Genesee County outside of Flint.[55] Data released by the State confirm that the percentage of Flint children under sixteen with elevated blood levels has risen (from 2.37% to 3.21%) since the switch to Flint River water.[56]

This increased rate of children with elevated blood lead levels is even more alarming because the Flint community may be more at risk for elevated blood lead levels and lead poisoning than communities elsewhere in the country. Michigan ranks fifth worst in the country for harmful exposures to lead.[57] Low income is a risk factor for lead poisoning, and the proportion of families living below the poverty level in Flint is more than three times the national proportion (35.5% in Flint vs. 11.3% nationally in 2013 estimates).[58] Living in housing built before 1978 (when the federal ban on high-lead paint went into effect) is also a risk factor, because dust from lead paint continues to be a major source of lead exposure in children.[59] Nearly 90% of housing in Flint was built before

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[53] Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation), *available at* http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/ (attached as Ex. 49).

[54] *Id.*

[55] *Id.*

[56] Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press, Sept. 29, 2015, http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/state-data-flint-lead/72820798/ (attached as Ex. 50).

[57] Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013), http://www.cdc.gov/nceh/information/healthy_homes_lead.htm (attached as Ex. 51).

[58] 2009-2013 American Community Survey 5-year Estimates, 2013, *available at* http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml (enter "Flint, MI" in the box under "Community Facts," click on "Income" on left-side bar, then click "Selected Economic Characteristics" under "2013 American Community Survey") (table attached as Ex. 52 compares data from Flint, MI to Michigan and the United States).

[59] *See, e.g.*, Am. Cancer Soc'y, *Lead, Lead in the Environment,* http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/lead (last updated May 27, 2014) (characterizing lead paint as a "major" source of exposure) (attached as Ex. 53).

1978.[60] These factors show that the risks to Flint residents from lead exposure may be particularly acute.

The monitoring data showing high lead levels in Flint drinking water, combined with the well-known serious adverse health impacts of lead exposure, demonstrate "a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventive action is not taken."[61] These circumstances constitute an imminent and substantial endangerment warranting emergency federal action.[62]

IV. Neither the City nor MDEQ has acted to protect Flint residents from continuing health risks of exposure to high lead levels in drinking water

Federal emergency action is necessary because neither the City nor MDEQ has adequately addressed the danger to Flint residents from lead in their drinking water. To date, the local and state response to lead concerns has been, at best, nominal and ineffective.[63]

The state-appointed emergency manager and MDEQ allowed the City to begin using the Flint River as its water source without adequately ensuring that the system would continue to "operate and maintain optimal corrosion control treatment," as required by the SDWA.[64] The Lead and Copper Rule requires states to "review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system."[65] But as of March 28, 2014, three weeks before the City planned to start using Flint River water, the City had not even submitted an application to the State for approval to make the change.[66] A month later, MDEQ had approved the change without requiring the City to implement corrosion control measures, as required by the Lead and

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[60] 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013), https://www.michigan.gov/documents/mdch/2012AnnualDataReportOnBloodLeadLevels_419508_7.pdf (attached as Ex. 54); *see* CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977), http://www.cpsc.gov/en/Recalls/1977/CPSC-Announces-Final-Ban-On-Lead-Containing-Paint/ (attached as Ex. 55); Maj. Thomas F. Zimmerman, *The Regulation of Lead-Based Paint in Air Force Housing,* 44 Air Force L. Rev. 169, 175 (1998).

[61] H.R. Rep. No. 93-1185, 1974 U.S.C.A.A.N. 6454, 6488 (July 10, Aug. 15, 1974) (defining when an endangerment may be considered substantial).

[62] *See Trinity Am. Corp. v. U.S. E.P.A.*, 150 F.3d 389, 399 (4th Cir. 1998) (imminent and substantial endangerment found when "dangerous levels of [a] contaminant[] exist in [the] water supply," and that the contaminant "pose[s] a great risk to human health").

[63] *See id.* at 397 (explaining that "minor" and "ineffective" action by state and local authorities does not "strip EPA of its statutory emergency powers").

[64] 40 C.F.R. § 141.81(b).

[65] 40 C.F.R. § 141.81(b)(3)(iii).

[66] Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live, Mar. 28, 2014, http://www.mlive.com/news/flint/index.ssf/2014/03/state_says_flint_hasnt_applied_1.html (attached as Ex. 56).

Copper Rule.[67] When EPA inquired about what the City was doing to control corrosion, MDEQ falsely stated that the City was already operating an "Optimized Corrosion Control Program."[68] The opposite was true: as the State later admitted, the City had not implemented any corrosion control treatment measures (and still has not done so).[69]

Further, evidence indicates that the City and MDEQ are either unwilling or unable to conduct tap water monitoring for lead in compliance with federal regulations. As discussed above, statements by a Flint Utilities Administrator suggest that the City did not identify a sampling pool prior to conducting monitoring, as federal law expressly requires. Instead, the Department of Public Works "just thr[ew] out bottles everywhere just to collect as many [samples] as we c[ould]."[70] The City even asked its own employees and their "family/friends who live in the city" to participate in the sampling group.[71]

The City also may not have complied with requirements for targeting high-risk homes, including the requirement that 50% of sampled sites contain lead pipes or copper pipes with lead solder.[72] The City's Utilities Administrator conceded that the City was "not really" able to determine that every residence sampled had lead pipes, even though this was what the City affirmatively reported to MDEQ in a monitoring compliance report.[73] Further, the City's monitoring compliance report shows that the City did not meet the deadline to submit its monitoring results and did not comply with the requirement to sample the same sites across monitoring periods.[74] During the January to June 2015 monitoring period, the City initially sought to obtain 100 samples.[75] *After* the City failed to collect that number, MDEQ decided that only sixty samples were required.[76]

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[67] *See* 40 C.F.R. § 141.81(a)-(b).

[68] *See* Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015) ("The City of Flint . . . [h]as an Optimized Corrosion Control Program[.]") (attached as Ex. 57).

[69] Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015) ("Flint is not currently practicing corrosion control treatment at the [Water Treatment Plant].") (attached as Ex. 58).

[70] *See* 40 C.F.R. § 141.86(a)(1);*Thirst for Truth: Who's to Blame for Flint Water Crisis?* (ACLU of Michigan, Jul. 28, 2015), *available at* https://www.youtube.com/watch?t=9&v=LTO9irD2f0Y (statement of Michael Glasgow, Utilities Administrator).

[71] Email from Michael Glasgow (June 1, 2015) (attached as Ex. 59).

[72] 40 C.F.R. § 141.86(a)(8).

[73] *Thirst for Truth*, supra note 70 (statement of Michael Glasgow, Utilities Administrator, at 5:30-5:45).

[74] City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015) (checking "no" box in response to question asking whether City used the same sampling sites as the previous monitoring period) (attached as Ex. 60); *see* 40 C.F.R. §§ 141.86(b)(4); 141.90(a)(1).

[75] *See* Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015) (attached as Ex. 61).

[76] *Compare id.* ("We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results,

Compliance with the SDWA's monitoring requirements is critical to accurately assessing the levels of lead in Flint's water, and to ensuring implementation of the drinking water standards set forth in the Lead and Copper Rule. Although the serious apparent flaws in the City's testing procedures call into question whether the City is complying with the SDWA, both the City and MDEQ continue to maintain that Flint's water "is meeting state and federal drinking water standards."[77]

Neither the City nor MDEQ has taken measures to broadly provide an alternative, free source of safe drinking water to residents. Instead, state and local authorities have dismissed citizen concerns about lead in drinking water as "near-hysteri[cal]" and "irresponsible."[78] City officials have encouraged residents to install in-home water filters, flush their taps before using the water, and send their children to school with bottled water, all at the residents' own expense, which is alarming given that there are roughly 14,000 households in Flint with children under 18, and nearly three-quarters of the children in those households receive Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits.[79] These remedies are inadequate: filters are expensive, may clog quickly, are of varying effectiveness at removing lead, and require

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Flint's 90th percentile is over the AL for lead."), *with* City of Flint, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply, *supra* note 31, at 1 ("Revised report after conference call with DEQ staff . . . . [D]ue to population the number of samples required was reduced to 60.").

[77] Letter from MDEQ to MI State Senators 2 (Sept. 17, 2015) (attached as Ex. 62); City of Flint, *City of Flint Issues Lead Advisory, supra* note 13 ("[T]he City is in full compliance with the Federal Safe Drinking Water Act.").

[78] *Did this Michigan Town Poison its Children?*, U.S. News & World Report, Sept. 24, 2015, http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood (attached as Ex. 63); Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live, Sept. 10, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html (attached as Ex. 64). The City's statement that it will "work with [MDEQ] on implementing water optimization measures to reduce the corrosive effects of water on older pipes" by 2016 is a hollow promise given the present and continuing exposure to lead and lead's irreversible effects on human health. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live, Sept. 3, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/mayor.html (attached as Ex. 65).

[79] City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13; Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live, Sept. 25, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/flint_community_schools_asks_s.html (attached as Ex. 66); *see* factfinder.census.gov (2010 data) (enter "Flint, MI" in box under "Community Facts," then click "General Population and Housing Characteristics" under "2010 Census") (attached as Ex. 67); 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics (2013 estimate), factfinder.census.gov (enter "Flint, MI" in box under "Community Facts," then click "Poverty" on left-side bar, then click "Children Characteristics") (attached as Ex. 68).

ongoing maintenance. Pre-flushing is also imperfect, does not always eliminate lead, and may be prohibitively expensive for many families given Flint's high water rates.[80]

The City's and State's apparent lapses in regulatory compliance, and their failure to take responsibility for responding to the City's lead problems, demand federal intervention.

V. EPA should act immediately to adequately address the public health emergency created by lead in Flint drinking water

Petitioners urge EPA to take all actions necessary to abate the endangerment presented by lead in Flint's drinking water, and to inform Flint residents about the potential hazards of drinking the City's tap water. At minimum, Petitioners request that EPA:

- Immediately order the City and MDEQ to reconnect Flint's water system with water from the Detroit Water and Sewerage Department. EPA should work with the City of Flint, MDEQ, and the Detroit Water and Sewerage Department to facilitate this renewed connection as soon as possible.

- Immediately provide Flint residents with an alternative, free source of safe drinking water that meets EPA standards. This may include providing customers with free bottled water or providing (and routinely maintaining) free in-home and replacement filters that are certified to remove lead by NSF International.[81]

- Immediately order the City to advise all Flint water customers to avoid consuming unfiltered water from the City's water system. The notice should warn customers not to use unfiltered Flint water to make baby formula or for children. The notice should inform customers that if they have no alternative water source, they should flush Flint water for *a minimum* of five minutes before

---

[80] Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by $35,* Michigan Live, June 1, 2014, http://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html (citing Flint bills at $140/month) (attached as Ex. 69). A state-court judge recently ruled that the Emergency Manager's decision to significantly raise water rates was unlawful. Ron Fonger, *Judge orders Flint to cut water rates 30% in sweeping injunction*, Michigan Live, Aug. 7, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_ordered_to_cut_water_rat.html (attached as Ex. 70).

[81] *See* U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011) (provision of bottled water is a "common federal response" in emergencies) (attached as Ex. 71); *cf.* 40 C.F.R. § 141.101 (allowing public water systems to use bottled water on a temporary basis "to avoid unreasonable risk to health"); U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010), http://www.epa.gov/superfund/health/conmedia/gwdocs/pdfs/610732.pdf (allowing delivery of bottled water on a temporary basis in certain circumstances in CERCLA removal or remediation actions) (attached as Ex. 72).

use. EPA should prohibit the City from charging water customers for this flushing time.

- Use its authority under 40 C.F.R. §§ 142.19 and 141.82(i) to review MDEQ's determinations concerning corrosion control requirements for the Flint water system, and issue a federal order establishing the optimal corrosion control treatment requirements for the Flint water system and requiring Flint to immediately comply with these requirements.

- Order the City to conduct continued monitoring for lead and copper in six-month periods in accordance with the procedures set forth in 40 C.F.R. § 141.86. EPA should directly oversee the City's monitoring by ordering the City to submit a Quality Assurance Project Plan (QAPP) to ensure that all information, sample collection, analytical data and resulting decisions are technically sound, scientifically valid, and properly administered. EPA must approve the City's QAPP before the City conducts any additional monitoring. EPA should prohibit the City from conducting reduced monitoring under 40 C.F.R. § 141.86(d)(4) for at least five years.

- Order the City to comply with the public education and supplemental monitoring requirements in 40 C.F.R. § 141.85, including but not limited to immediately notifying consumers of the results of tests completed at their homes or places of business, and providing the public education, monitoring, and notification established in those rules.

- Order any other additional relief that EPA determines is "necessary to protect the health" of Flint residents from lead contamination in drinking water.

VI. Conclusion

For the foregoing reasons, Petitioners respectfully request that EPA take the actions necessary to abate the imminent and substantial endangerment to Flint residents' health from lead contamination in their drinking water.

Dated: October 1, 2015

Respectfully Submitted,

/s/ Pastor Allen Overton
Pastor Allen Overton
COALITION FOR CLEAN WATER

/s/ Pastor Alfred Harris
Pastor Alfred Harris
CONCERNED PASTORS FOR SOCIAL ACTION
2200 Forrest Hill
Flint, Michigan 48504
(810) 394-6787

/s/ Melissa Mays
Melissa Mays
LeeAnne Walters
WATER YOU FIGHTING FOR

/s/ Claire McClinton
Claire McClinton
DEMOCRACY DEFENSE LEAGUE WATER TASK FORCE

/s/ Marc Edwards
Marc Edwards, CEE
Siddhartha Roy
FLINT WATER STUDY TEAM

/s/ Dawn Kettinger
Dawn Kettinger
MICHIGAN NURSES ASSOCIATION

/s/ Yvonne M. White
Yvonne M. White
NAACP – Michigan State Conference

/s/ Jeffrey L. Edison
Jeffrey L. Edison
MICHIGAN CHAPTER OF THE NATIONAL CONFERENCE OF BLACK LAWYERS

/s/ Brooke Tucker
Brooke Tucker
Michael Steinberg
AMERICAN CIVIL LIBERTIES UNION OF MICHIGAN
2966 Woodward Ave.
Detroit, MI 48201
(313) 578-6800

/s/ Dimple Chaudhary
Dimple Chaudhary
Anjali Waikar
Sarah C. Tallman
Evan Feinauer
NATURAL RESOURCES DEFENSE COUNCIL
20 N. Wacker Drive, Suite 1600
Chicago, IL 60606
(312) 663-9900

From: Busch, Stephen (DEQ)
Sent: Thursday, October 01, 2015 8:32 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ)
Subject: RE: talking points
Attachments: City of Flint PbCu15 8_17_15.pdf

See the second paragraph on page 2 of the attached for the technical definition. Since the WTP level was Non-detect, in this situation saying the 90th percentile must be less than 5 ppb I believe is correct.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wyant, Dan (DEQ)
Sent: Thursday, October 01, 2015 7:51 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Pallone, Maggie (DEQ)
Subject: Fwd: talking points

Brad/Karen. Please add to my talking points.

Sent from my iPhone

Begin forwarded message:

> **From:** "Hedman, Susan" <hedman.susan@epa.gov>
> **Date:** October 1, 2015 at 7:26:59 PM EDT
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
> **Subject: RE: talking points**
>
> Further to our conversation, please note that lead and copper monitoring is used to determine:
>
> 1) Whether corrosion control is optimized. Under 141.81(b)(3), a water system is deemed to have optimum corrosion control if it submits results of tap water monitoring that demonstrates for 2 consecutive six-month periods that the 90th percentile level is below 5 ug/L (ppb). Because Flint exceeded this level, the City is required to implement corrosion control – as noted in MDEQ's August 17th letter to the City of Flint which states: "Since the City did not meet these criteria in both the July–December 2014, and January-June 2015, sampling periods, the City must now recommend a treatment to fully optimize corrosion control treatment . . . ."
>
> 2) Whether the lead action level (15ug/L) has been exceeded. Under 141.84(a), systems that fail to meet the lead action level in tap samples after installing corrosion control treatment must replace lead service lines – 7% of the lead service lines in its distribution system.

From: Wyant, Dan (DEQ) [mailto:WyantD@michigan.gov]
Sent: Thursday, October 01, 2015 5:02 PM
To: Hedman, Susan
Subject: Fwd: talking points

Talking points. I will make the adjustment you and I talked about. Thanks for your help.

Sent from my iPhone

Begin forwarded message:

> **From:** "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
> **Date:** October 1, 2015 at 4:27:53 PM EDT
> **To:** "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>, "Minicuci, Angela (DHHS)" <MinicuciA@michigan.gov>, "Eisner, Jennifer (DHHS)" <EisnerJ@michigan.gov>, "Hertel, Elizabeth (DHHS)" <HertelE@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Wurfel, Sara (GOV)" <Wurfels@michigan.gov>, "Murray, David (GOV)" <MurrayD1@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Paciorek, Josh (GOV)" <Paciorekj@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>
> **Subject: talking points**
>
> Here's the talking points we've been working from. Feel free to add DHHS' info.
>
> Karen Tommasulo
> Public Information Officer
> Michigan Department of Environmental Quality
> 517-284-6716 | 517-599-5733
> tommasulok@michigan.gov

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

DAN WYANT
DIRECTOR

August 17, 2015

Mr. Brent Wright
City of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear Mr. Wright:

SUBJECT: Flint, City of WSSN: 02310
Lead and Copper Monitoring of Drinking Water Taps

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), received your report for the monitoring period January 1, 2015, through June 30, 2015.

Action Levels	Results this monitoring period			
	90th Percentile	# of Samples Above Action Level	# of Samples Required	# of Samples Collected
Lead 15 parts per billion (ppb)	11 ppb	6	60	69
Copper 1.3 parts per million (ppm)	0.16 ppm	0	60	69

Ninety percent or more of the sites you tested are within action levels under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). These results must be reported on your 2015 Consumer Confidence Report (CCR) due to our office, your customers, and the local health department, by July 1, 2016. Also include the following statement in the CCR, regardless of the lead and copper levels:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.water.epa.gov/drink/info/lead.

Recent changes to the Lead and Copper Rule (LCR) require the water supply to provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of your customer notice by three months after the end of the monitoring period. To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit http://www.michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms under the Manuals, Forms and Brochures heading. Water supplies that fail to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule."

While the City's LCR compliance monitoring has continued to meet action level requirements, the LCR also requires all large systems (those serving over 50,000 people) to optimize corrosion control regardless of their 90th percentile lead concentration. One way to demonstrate fully optimized corrosion control treatment is through two consecutive six month rounds of LCR compliance monitoring in which the difference between the 90th percentile level and the highest source water lead concentration is less than the Practical Quantitative Level for lead (0.005 milligrams per liter). Since the City did not meet these criteria in both the July – December 2014, and January – June 2015, sampling periods, the City must now recommend a treatment to fully optimize corrosion control treatment within six months in accordance with requirements under Act 399, Administrative Rule 604f (R 325.10604f). **This recommendation must be provided to our office as soon as possible, but no later than January 1, 2016**.

However, given the past use of phosphate treatment by the Detroit Water and Sewerage Department (DWSD) to fully optimize corrosion control treatment when the City was a wholesale customer of DWSD, the ODWMA recommends the City select this as its recommended treatment option, and begin implementation as soon as possible to address ongoing concerns by customers regarding lead levels within their premise plumbing systems. Under the second step of this Rule, the DEQ can specify optimal corrosion control treatment.

Our office will inform you when monitoring needs to be conducted as part of the optimization of the implemented corrosion control treatment. Customer requested samples for lead shall continue to be collected and analyzed. Please make every attempt to select the same sites used in the previous monitoring period, giving Tier 1 sites first priority. If original sites are unavailable, select replacement sites based on the Tier 1, 2, and 3 criteria.

Please contact me at 517-284-6644 or rosenthala@michigan.gov at your earliest convenience to discuss how the City will be complying with the above requirements.

Sincerely,



Adam Rosenthal, Environmental Quality Analyst
Lansing District Office
Office of Drinking Water and Municipal Assistance

cc: Mr. Michael Glasgow, City of Flint

From: Pallone, Maggie (DEQ)
Sent: Friday, October 02, 2015 6:13 AM
To: Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Busch, Stephen (DEQ);Benzie, Richard (DEQ);Krisztian, George (DEQ);Sygo, Jim (DEQ)
Subject: Fwd: Media conference call re: Flint water action plan
Attachments: NR 151002 - Flint water action plan.docx; ATT00001.htm; Infographic - Flint Water Action Plan 10-2-15.pdf; ATT00002.htm; Infographic - Flint water tips 10-2-15.pdf; ATT00003.htm; Flint water - talking points (draft 151001).docx; ATT00004.htm

In light of the possible topics Director will need a clear understanding of what the Genesee county health emergency declaration means? Is there ANY role the DEQ may have?
Thanks
Maggie

Begin forwarded message:

> **From:** "Wurfel, Sara (GOV)" <WurfelS@michigan.gov>
> **Date:** October 2, 2015 at 12:04:34 AM EDT
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>, "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>, "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>, "Minicuci, Angela (DHHS)" <MinicuciA@michigan.gov>, "Eisner, Jennifer (DHHS)" <EisnerJ@michigan.gov>, "Hertel, Elizabeth (DHHS)" <HertelE@michigan.gov>
> **Cc:** "Murray, David (GOV)" <MurrayD1@michigan.gov>, "Kennedy, Jordan (GOV)" <KennedyJ4@michigan.gov>, "Brown, Jessica (GOV)" <BrownJ53@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
> **Subject: Media conference call re: Flint water action plan**
>
> Hi all –
>
> Per conversations today, here are the details for Friday's embargoed media conference call.
>
> Given some of the changing information, we added in a quick pre-brief with the Governor from 11 to 11:10 a.m. to give us a chance to go over any last details and finalize flow. This will be followed by the actual media conf. call from 11:15 to 11:40 a.m. Know that folks will be needing to head to Flint immediately afterward.
>
> Sounds like we'll have Dan, Nick and Dr. Wells in person. That's great and will work best when most everyone is in the same room. The location is Romney Building, 1st floor communications conference room. The governor will be joining us from phone.
>
> We'll need to be fairly quick in overview and framing comments so we can get to as many Qs as possible.
>
> Please let me know if anyone has any Qs, concerns or needs anything else at all. Or if you'd like a listen only line for anyone back in the depts. to catch the call.

Otherwise, see you in the Romney by 11 a.m. tomorrow.

Thanks so much!
SW

p.s. Also attached key documents as stand right now – release, 2 infographics and the high level points.

Agenda:
11:15-11:16 AM SW intro; sets parameters; introduces other participants; turns over to Governor for opening remarks
11:16-11:20 AM Governor gives opening remarks; highlights reason for state action; introduces Director Wyant
11:20-11:24 AM Director Wyant remarks; highlights key steps in the action plan; introduces Director Lyon
11:24-11:27 AM Director Lyon remarks; highlights key health components of the plan and mentions Dr. Wells; turns back to Governor
11:27-11:37 AM Governor opens it up for Q&A
11:37-11:39 AM Governor closing remarks
11:39-11:40 AM SW wraps up call; reminds reporters of embargo, 1:30 p.m. press conference, and how to get a hold of everyone

Possible Topics:
Flint water action plan
Lead in Flint water
Handling of Flint water issue
Genesee Co. health emergency action
ACLU action
Hurley data
Reconnecting Flint to Detroit water

Media invited:
Flint area media (print, TV and radio) – Flint Journal/Ron Fonger; WJRT TV 12, WNEM TV 5, WEYI TV 25, WFNT Radio
Associated Press – Ed White
Detroit News – Jim Lynch
Detroit Free Press – Nancy Kaffer, Kristi Tanner & Kathy Gray
Michigan Radio – Steve Carmody

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

RICK SNYDER
GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray Governor's Office: 517-335-6397 Brad Wurfel, 517-284-6713 or Karen Tommasulo, 517-284-6714 Department of Environmental Quality Jennifer Eisner, 517-230-9804 Department of Health and Human Services	Friday, Oct. 2, 2015

Gov. Rick Snyder: Comprehensive action plan will help Flint residents address water concerns

Collaborative effort with state, federal and city leaders focuses on testing, assistance

FLINT, Mich. – Flint residents need to have access to safe, clean, water now and long into the future, Gov. Rick Snyder said, announcing a comprehensive action plan created with state, federal and city leaders to address concerns about drinking water.

The water leaving Flint's drinking water system is safe to drink, but some families with lead plumbing in their homes or service connections could experience higher levels of lead in the water that comes out of their faucets.

The action plan focuses on increasing water testing, offering additional precautions for families with lead plumbing in their homes, and providing long-term solutions to address the city's water infrastructure challenges. The plan was created at Snyder's direction by the Michigan Departments of Environmental Quality (DEQ) and Health and Human Services (DHHS), the U.S. Environmental Protection Agency, and the city of Flint.

"We are focused on helping ensure safe, clean, accessible drinking water and addressing and mitigating concerns and protecting public health," Snyder said. "Today's action plan builds upon ongoing work with local, state and federal agencies and our partnership with city and community leaders. Together, we are working to ensure that all Flint residents have accurate information and know that help is available to address potential problems."

The city and the state also are working together to gather more data to ensure the water that leaves the treatment plant as well as the water that arrives in Flint homes is safe for all residents. The plan includes:

- Testing in Flint public schools immediately to ensure that drinking water is safe, with testing also available at no cost to any other school in Flint.
- Offering free water testing to Flint residents to assure their drinking water is safe.
- Providing free water filters to residents with concerns or who are included in state assistance programs.
- Expanding health exposure testing of individual homes.

- Accelerating corrosion controls in the Flint drinking water system.
- Accelerating water system improvements to address replacing lead service lines.
- Expediting the completion of the Karegnondi Water Authority pipeline.
- Expanding a Safe Drinking Water Technical Advisory Committee to ensure the best technology, practices and science are being followed by adding an expert from the Environmental Protection Agency's Office of Research and Development to the group.
- Naming Dr. Eden Wells, chief medical executive for the Michigan Department of Health and Human Services, as the Flint drinking water public health adviser.
- Boosting a comprehensive lead education program to make sure residents have detailed information about how to protect themselves and their homes.

Residents can have their water tested by calling 810-787-6537 and pressing 1, or emailing flintwater@cityofflint.com. The DEQ is covering the cost of this testing.

State leaders have been working closely with state and federal lawmakers to tap resources at all levels of government to address concerns.

State health experts said there has been an increase in elevated childhood blood lead levels in some specific communities. Initial analysis of MDHHS data found that blood lead levels of children in Flint have followed an expected seasonal trend. While this analysis for Flint as a whole remains true, a comprehensive and detailed review breaking down data by ZIP codes with the city revealed that MDHHS data is consistent with a study presented recently by Hurley Children's Hospital.

"While we cannot conclusively say that the water source change is the sole cause of the increase, this analysis supports our efforts as we take active steps to reduce all potential lead exposures in Flint," MDHHS Director Nick Lyon said. "As part of this, we are working closely with our public and private partners to provide Flint residents on MDHHS assistance programs with free water filters and inform families about the steps they can take to reduce all lead exposures in their home."

As a part of the action plan, MDHHS is making National Sanitation Foundation certified water filters available to clients who are active Family Independence Program, Food Assistance Program, Child Development and Care or Social Security Insurance recipients.

"This action plan offers concrete steps we will take in a local, state and federal partnership to ensure all Flint residents have safe water to drink," DEQ Director Dan Wyant said. "The DEQ will work closely with the city to gather further data to ensure the water that leaves Flint's system as well as the water that arrives in Flint homes is safe to drink."

Additional information is available at www.michigan.gov/flintwater.

###

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- The Action Plan -

- Testing in Flint public schools immediately to ensure that **drinking water is safe**, with testing also available at no cost to any other school in Flint.
- **Offering free water testing** to Flint residents to assure their drinking water is safe.
- **Providing free water filters** to residents with concerns or who are included in state assistance programs.
- **Expanding health exposure testing** of individual homes.
- **Accelerating corrosion controls** in the Flint drinking water system.
- **Accelerating water system improvements** to address replacing lead service lines.
- Expediting the completion of the **Karegnondi Water Authority** pipeline.
- **Expanding a Safe Drinking Water Technical Advisory Committee** to ensure the best technology, practices and science are being followed by adding an expert from the Environmental Protection Agency's Office of Research and Development to the group.
- Naming Dr. Eden Wells, chief medical executive for the Michigan Department of Health and Human Services, as the **Flint drinking water public health adviser**.
- Boosting a **comprehensive lead education program** to make sure residents have detailed information about how to protect themselves and their homes.

To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit www.mi.gov/FlintWater for more information

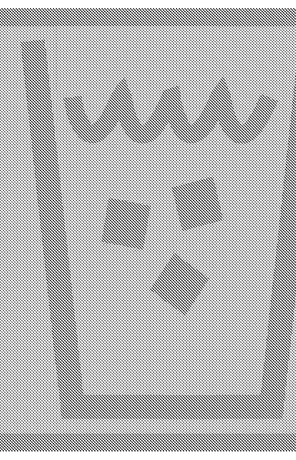
TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- Tips for Flint Residents -

Lead plumbing is common in homes built prior to 1986, and **anyone in the state with lead pipes in their home can take some extra precautions** to minimize lead in their drinking water.

1. Get your water tested at no cost to ensure water is safe. **To get your water tested**, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.

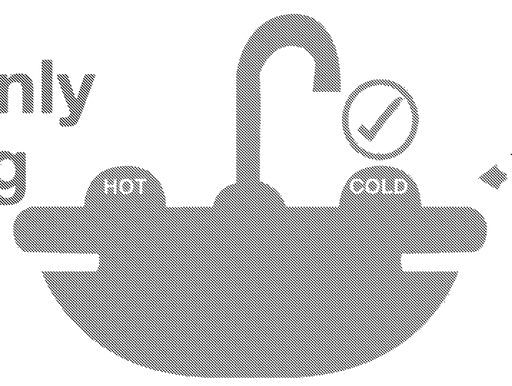


2. To ensure safe drinking water, you can also get a free filter. Please visit **mi.gov/FlintWater** to find where you can get a free filter.

3. It takes time for lead to accumulate in drinking water from plumbing, and so **flushing your pipes prior to using them** can minimize your exposure.

- To flush your pipes, run the water until it's as cold as it will go. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 5 minutes if you have not used any water in hours.
- In the city of Flint, **running the water for 5 minutes costs between 3 and 16 cents.**

4. Additionally, more lead gets into hot water than cold water. **Use only cold water for drinking, cooking and making baby formula.**



To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit **www.mi.gov/FlintWater** for more information

Flint Drinking Water Action Plan
Talking Points

Overall Messaging

- Repeated testing shows the water leaving Flint's drinking water system is safe to drink and meets all federal guidelines, including lead.
- After the switch the Flint River, the compliance testing protocol yielded results of 6 ppb in December 2014 and 11 ppb in June 2015. Both results were below the federal action level of 15 ppb.
- However, we recognize some residents experience higher levels of lead in the water that comes out of their faucets because of lead plumbing in the home, and that's a concern.
- Out of an abundance of caution, we want to address the needs of all Flint families, and so we have developed an action plan that includes both short- and long-term solutions.
- The state plan focuses on increasing water testing, offering additional precautions for families, and providing long-term solutions to address the city's water infrastructure.

Messaging regarding the action plan

The city and the state are working together to gather more data to ensure the water that leaves the treatment plant as well as the water that arrives in Flint homes is safe for all residents.

- **Immediately test Flint public schools to ensure that drinking water is safe. Testing will also be available at no cost to any other school in Flint.**
    - Although Flint's drinking water meets all federal requirements, the state wants to take extra steps to ensure that drinking water is safe for the city's children.
    - The state will fund this testing (about $30,000) at no cost to the city or the local schools, and make the results publicly available.

- **Expand health exposure testing of individual residences.**
    - To double-check its data as well as provide residents with an additional layer of assurance, the DEQ will conduct more tests at Flint properties.
    - The Technical Advisory Committee will determine the scope of this expanded testing.

- **Offer water testing at no cost to Flint residents to assure water is safe.**
    - Although all testing indicates water in the city of Flint meets all federal standards, we understand some residents are concerned.
    - To ensure water in individual homes is safe, free water testing is available to all Flint residents.
    - We encourage anyone with a concern to get their water tested.
    - Contact the city water department to have your water tested.

- **Accelerate optimizing corrosion controls in the Flint drinking water system.**

- A fully optimized corrosion control system can help coat the inside of pipes to minimize the amount of lead that enters the drinking water after it leaves the treatment plant.
- This is a helpful step that can help minimize lead system-wide, and we're pleased the city is moving to take this step.
- If asked: This was not initially required because a fully optimized corrosion control system is not federally required in many water systems. Even today, since Flint is meeting all federal standards, this fully optimized system is not required. However, to address public concerns and ensure every possible precaution is taken, the city is moving forward with installing this corrosion control system.

- **Expand the "Safe Drinking Water Technical Advisory Committee" to ensure the best technology, practices and science are being utilized, and add an expert from the EPA's Office of Research and Development to the group.**
  - The Safe Drinking Water Technical Advisory Committee will meet Oct. 7 to discuss fully optimizing the corrosion control system, expanding testing of at-risk properties, and other topics.
  - Tom Burke, the Deputy Assistant Administrator of EPA's Office of Research and Development as well as the EPA's Science Advisor, will participate on the committee. Prior to joining EPA, he held prominent positions at the Johns Hopkins Bloomberg School of Public Health and founded the Johns Hopkins Risk Sciences and Public Policy Institute. He brings substantial expertise, and we're pleased he is able join the committee.

- **Accelerate water system improvements to address replacement of lead service lines.**
  - Regardless of the drinking water source – whether it be DWSD, the Flint River or Lake Huron – the only permanent fix for lead is to replace all 18,000 of the private lead service lines in the city. These are the lines on private property that lead from the curb to individual homes.
  - This is a problem in communities statewide, and one we want to address with a long-term solution.
  - The state and EPA are working together to find a way for the city to access Drinking Water Revolving Loan funds for the work.

- **Expedite completion of Karegnondi Water Authority.**
  - The move to the Flint River was always a temporary measure until the connection to the KWA and to Lake Huron was completed.
  - This is the ultimate goal of the venture, and the state and locals will work together to speed up completion of the connection.
  -

- **Name Dr. Eden Wells as Flint Drinking Water Public Health Advisor.**
  - Dr. Wells is the Director for the Preventive Medicine Residency at the University of Michigan School of Public Health in Ann Arbor as well as the Chief Medical Executive for MDHHS.

- She brings years of experience in epidemiology and preventative medicine to the issue, and we're thrilled to have her expertise.
- Dr. Wells will coordinate with Hurley Medical Center to share data on blood lead levels in children, as well as address other emerging issues.

- **Provide water filters to residents of Flint.**
  - As an additional precaution, water filters will be available to low-income families.
  - This provides another safeguard to ensure everyone in the city of Flint has access to clean drinking water that they feel confident drinking.

- **Expand a comprehensive lead education initiative.**
  - Lead plumbing is common in homes built prior to 1986, and anyone in the state with lead pipes in their home can take some extra precautions to minimize lead in their drinking water.
  - It takes time for lead to accumulate in drinking water from plumbing, and so flushing your pipes prior to using them can minimize your exposure.
    - To flush your pipes, run the water until it's as cold as it will go. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 5 minutes if you have not used any water in hours.
    - In the city of Flint, running the water for 5 minutes only costs about 3-16 cents, depending on your faucet.
  - Additionally, more lead gets into hot water than cold water. Use only cold water for drinking, cooking and making baby formula.

From: Benzie, Richard (DEQ)
Sent: Friday, October 02, 2015 9:40 AM
To: Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Busch, Stephen (DEQ);Krisztian, George (DEQ);Sygo, Jim (DEQ)
Subject: RE: Media conference call re: Flint water action plan
Attachments: Public Health Code Summary of Authority and Actions.pdf

I am not well versed on this matter as we have no prior history of such an event impacting a community public water system.

The attached document was received by our Noncommunity Public Water Supply program manager (Dana DeBruyn) at a presentation given by Deborah Garcia, Public Health Administrative Law Specialist who works in the Office of Legal Affairs and FOIA, formerly in DCH, now DHHS.

It seems like the authority used by Genesee County falls under the first Action of Imminent Danger Order. The fourth bullet implies that the Director (of DHHS?) may take full charge of the situation including the oversight of local health laws, rules, regulations and ordinances. It doesn't appear to place any particular onus or responsibility on the DEQ Director. Perhaps we need legal advice.

Richard Benzie, P.E., Chief
Field Operations Section
Office of Drinking Water and Municipal Assistance, MDEQ
517-284-6512

From: Pallone, Maggie (DEQ)
Sent: Friday, October 02, 2015 6:13 AM
To: Wurfel, Brad (DEQ); Wyant, Dan (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ); Krisztian, George (DEQ); Sygo, Jim (DEQ)
Subject: Fwd: Media conference call re: Flint water action plan

In light of the possible topics Director will need a clear understanding of what the Genesee county health emergency declaration means? Is there ANY role the DEQ may have?
Thanks
Maggie

Begin forwarded message:

> **From:** "Wurfel, Sara (GOV)" <WurfelS@michigan.gov>
> **Date:** October 2, 2015 at 12:04:34 AM EDT
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>, "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>, "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>, "Minicuci, Angela (DHHS)" <MinicuciA@michigan.gov>, "Eisner, Jennifer (DHHS)" <EisnerJ@michigan.gov>, "Hertel, Elizabeth (DHHS)" <HertelE@michigan.gov>
> **Cc:** "Murray, David (GOV)" <MurrayD1@michigan.gov>, "Kennedy, Jordan (GOV)" <KennedyJ4@michigan.gov>, "Brown, Jessica (GOV)" <BrownJ53@michigan.gov>, "Thelen, Mary Beth

(DEQ)" <THELENM2@michigan.gov>
Subject: Media conference call re: Flint water action plan

Hi all –

Per conversations today, here are the details for Friday's embargoed media conference call.

Given some of the changing information, we added in a quick pre-brief with the Governor from 11 to 11:10 a.m. to give us a chance to go over any last details and finalize flow. This will be followed by the actual media conf. call from 11:15 to 11:40 a.m. Know that folks will be needing to head to Flint immediately afterward.

Sounds like we'll have Dan, Nick and Dr. Wells in person. That's great and will work best when most everyone is in the same room. The location is Romney Building, 1st floor communications conference room. The governor will be joining us from phone.

We'll need to be fairly quick in overview and framing comments so we can get to as many Qs as possible.

Please let me know if anyone has any Qs, concerns or needs anything else at all. Or if you'd like a listen only line for anyone back in the depts. to catch the call.

Otherwise, see you in the Romney by 11 a.m. tomorrow.

Thanks so much!
SW

p.s. Also attached key documents as stand right now – release, 2 infographics and the high level points.

Agenda:
11:15-11:16 AM SW intro; sets parameters; introduces other participants; turns over to Governor for opening remarks
11:16-11:20 AM Governor gives opening remarks; highlights reason for state action; introduces Director Wyant
11:20-11:24 AM Director Wyant remarks; highlights key steps in the action plan; introduces Director Lyon
11:24-11:27 AM Director Lyon remarks; highlights key health components of the plan and mentions Dr. Wells; turns back to Governor
11:27-11:37 AM Governor opens it up for Q&A
11:37-11:39 AM Governor closing remarks
11:39-11:40 AM SW wraps up call; reminds reporters of embargo, 1:30 p.m. press conference, and how to get a hold of everyone

Possible Topics:
Flint water action plan
Lead in Flint water
Handling of Flint water issue
Genesee Co. health emergency action
ACLU action
Hurley data
Reconnecting Flint to Detroit water

Media invited:
Flint area media (print, TV and radio) – Flint Journal/Ron Fonger; WJRT TV 12, WNEM TV 5, WEYI TV 25, WFNT Radio
Associated Press – Ed White
Detroit News – Jim Lynch
Detroit Free Press – Nancy Kaffer, Kristi Tanner & Kathy Gray
Michigan Radio – Steve Carmody

Michigan Public Health Code - Summary of Authority and Actions

	Authority/Action	Law[1]	Comments
1.	Imminent Danger Order	§ 2251 or § 2451	• Issued by State Health Director or Local Health Officer • Requires determination of "imminent danger", i.e. a condition or practice exists which could reasonably be expected to cause death, disease, or serious physical harm immediately or before the imminence of the danger can be eliminated through enforcement procedures otherwise provided • May require immediate action to avoid, correct, or remove imminent danger • If Director determines that conditions anywhere in state constitute a menace to the public health, Director may take full charge of the administration of applicable state and local health laws, rules, regulations, and ordinances • Petition filed in circuit court for an order to compel compliance • Issued by State Health Director to notify State Board of Pharmacy and Director of Licensing and Regulatory Affairs to remove the imminent danger.
	Imminent Danger Notification to Schedule a Controlled Substance	§ 2251(4)	• This is an imminent danger to the health and lives of individuals in this state that can be prevented or controlled by the promulgation of an emergency rule under section 48(2) of the administrative procedures act of 1969,1969 PA 306, MCL 24.248, to schedule a substance or reschedule a substance as a controlled substance as provided in part 72. • The notification shall include a description of the substance to be scheduled or rescheduled and the grounds for the State Health Director's determination. • The State Health Director may provide copies of police, hospital, and laboratory reports and other information deemed appropriate to the Board of Pharmacy and Director of Licensing and Regulatory Affairs..
2.	Emergency Order to Control Epidemic	§ 2253 or § 2453	• Issued by State Health Director or Local Health Officer • May prohibit the gathering of people for any purpose and may establish procedures to be followed during the epidemic • Unlike Warning Notice (described below) may be issued to a class of persons • May be used to direct mass immunization (§ 9203) • Petition filed in circuit court for an order to compel compliance
3.	Order to Abate a Nuisance	§ 2455	• Issued by State Health Director or Local Health Officer against owner of property • If property owner does not comply, may remove nuisance and charge owner • May seek warrant from court for assistance from law enforcement to remove nuisance
4.	Inspection or Investigation Authority	§ 2221(2)(d) § 2241(1) § 2433(2)(c) § 2446 Rule 173(9)	• State and local health departments are authorized to inspect or investigate: – A suspected outbreak or exposure – Any matter, thing, premises, place, person, record, vehicle, incident, or event • State and local health investigators to be provided with medical and epidemiological pertaining to individuals who have, are suspected of having, or may have been exposed to a disease or condition of public health significance
5.	Inspection or Investigative Warrant	§§ 2241-2247 § 2446	• Application for warrant may be filed by State or Local Health Department • Issued by Magistrate based on facts stated in affidavit • May authorize property to be seized • May direct law enforcement to assist health department in inspection or investigation

[1] Refers to section of Public Health Code, MCL 333.1101 *et seq.* or communicable disease rules, Michigan Administrative Code, R 325.171 *et seq.*, promulgated under the Code (§§ 2226(d), 2435(d), 5111).

	Authority/Action	Law[1]	Comments
6.	Criminal Prosecution	§ 2261 or § 2443	• A person who violates a rule or order of the State or Local Health Officer is guilty of a misdemeanor punishable by imprisonment for not more than 6 months, or a fine of not more than $200, or both • Individual may be arrested if violation occurs in the presence of a police officer, or police officer has reasonable cause to believe individual has violated rule or order (MCL 764.15(1))
7.	Injunction	§ 2255 or § 2465	• State Health Director or Local Health Director may maintain action • May seek court order to restrain, prevent, or correct: – A violation of a law, rule or order that health department has duty to enforce – An activity or condition that health department believes adversely affects the public health
8.	Warning Notice (for involuntary detention and treatment of individuals)	§ 2453(2) §§ 5201 - 5205	• Shall be issued by state health department representative or Local Health Officer upon a determination that individual: – Is or is reasonably believed to be a carrier of a specific infectious agent or serious communicable disease or infection – Has demonstrated inability or unwillingness to act in a manner that does not put others at risk of exposure • Must be in writing (may be verbal in urgent circumstances, followed by a written notice within 3 days) • Must be specific and individual, cannot be issued to a class of persons • Must require individual to cooperate with health department in efforts to control spread of disease • May require individual to participate in education, counseling, or treatment programs, and to undergo medical tests to verify carrier status • Must inform individual that if individual fails to comply with Warning Notice, health department shall seek court order
9.	Court Order for Detaining, Transporting, Testing, or Treating Carrier of Infectious Disease	§§ 5205 - 5207	• If individual fails or refused to comply with Warning Notice (see discussion above), health department must petition Circuit Court (Family Division) for order requiring testing, treatment, education, counseling, commitment, isolation, etc., as appropriate – Individual has right to evidentiary hearing – Health department must prove allegations by clear and convincing evidence – Individual has right to appeal and review by Court of Appeals within 30 days – Before committing individual to a facility, court must consider recommendation of a commitment panel, and commitment order must be reviewed periodically • In an emergency, health department may go straight to court (without issuing Warning Notice). Upon filing of affidavit by health department, court may order that individual be taken into custody and transported to an appropriate emergency care or treatment facility for observation, examination, testing diagnosis, treatment, or temporary detention – Court must have reasonable cause to believe that individual is a carrier and health threat to others – Emergency order may be issued *ex parte* – Hearing on temporary detainment order must be held within 72 hours (excluding weekends and holidays) • Individual who is subject of either emergency proceedings or petition on a Warning Notice has right to counsel at all stages of proceedings. Indigent individual is entitled to appointed counsel

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, October 02, 2015 12:48 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of September 28, 2015
Attachments: E-Clips 092815.pdf

DEQ e-clips

Week of September 28, 2015

Articles related to the Flint Water Issue:

Al Jazeera America: Researchers: Lead levels up after Flint switches to cheaper water supply
http://america.aljazeera.com/articles/2015/9/25/the-contaminated-water-of-a-financial-crisis.html

ClickonDetroit: Public health emergency declared due to lead in Flint water
http://www.clickondetroit.com/news/public-health-emergency-declared-due-to-lead-in-flint-water/35601670?ens=1&utm_source=Local+Breaking+News&utm_medium=email&utm_campaign=Breaking+News+Alerts_54fe12cc0cf293a65e21650d_det&utm_content=20151001_1436

Detroit Free Press: Snyder finally says lead in Flint water may be problem
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/30/time-gov-says-lead-flint-water-may-problem/73088666/

Legislators take action to fix Flint water supply
http://www.freep.com/story/news/politics/2015/10/01/legislators-take-action-fix-flint-water-supply/73152540/

Detroit News: Snyder urged to help Flint reconnect to Detroit water
http://www.detroitnews.com/story/news/2015/09/28/snyder-urged-help-flint-reconnect-detroit-water/72999390/

Flint resident: Water looks like urine, smells like sewer
http://www.detroitnews.com/story/news/local/michigan/2015/09/30/flint-water-woes-seep-city-state-politics/73129478/

MLive: Flint schools chief seeking water donations for students after lead warning

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_superintendent_looking_t.html

Governor helped hush-hush delivery of water filters to Flint pastors
http://www.mlive.com/news/flint/index.ssf/2015/09/state_assured_flint_water_was.html#incart_river

City administrator asks Detroit about reconnecting Flint to Lake Huron
http://www.mlive.com/news/flint/index.ssf/2015/09/city_administrator_asks_detroi.html

Genesee county board sets press conference discussing Flint's water crisis
http://www.mlive.com/news/flint/index.ssf/2015/10/genesee_county_board_to_hold_p.html#incart_river

Petition launched for EPA intervention in Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/10/greater_flint_aclu_holds_meeti.html#incart_river_home

Budget bill add-on awaits future state funds for Flint water
http://www.mlive.com/news/flint/index.ssf/2015/10/state_sen_ananich_sets_stage_f.html#incart_story_package

Michigan Radio: Who's to blame for Flint's water crisis? Virginia Tech researcher points the finger at MDEQ
http://michiganradio.org/post/whos-blame-flints-water-crisis-virginia-tech-researcher-points-finger-mdeq

Flint mayor to state: Approve plan "as fast as humanly possible" to help keep lead out of water
http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water

Flint Water Study: COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis
http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/

Other News Articles:

Detroit Free Press: Fish farms threaten Great Lakes
http://www.freep.com/story/sports/outdoors/2015/09/26/outdoors-fish-farms-great-lakes/72911208/

EP News Wire: House panel to hold hearing on Great Lakes Restoration Initiative
http://epnewswire.com/stories/510640249-house-panel-to-hold-hearing-on-great-lakes-restoration-initiative

LSJ: Editorial: Regulations exist for a reason
http://www.lansingstatejournal.com/story/opinion/editorials/2015/09/27/editorial-regulations-exist-reason/72962644/

Livingston Daily: Environmental businessmen reach deal in felony case
http://www.livingstondaily.com/story/news/local/community/brighton/2015/09/28/businessmen-reach-plea-deal-felony-case/72830528/?from=global&sessionKey=i5TEHSosZtesOR8Km7dDPx2FOwImaBDK4V-18x2dg0ykfJgytbhCebRgM0IgDAx3Dx3DCWfDf247osx2BOvV4Fs5L8kgx3Dx3D-7OiaAuMyZ0DZnpDlwH5hggx3Dx3D-BSbDHxx3VpNx2BzSS4fs9Qckgx3Dx3D&autologin=Hx2BZA77c0x2BWoNqJjgcepoU5TXXdGZMGtrC49DeQw0Irsx3D

MLive: In toxic Lake Erie algae battle, Michigan shows a sign of progress
http://www.mlive.com/news/index.ssf/2015/09/phosphorus_in_lake_erie_tribut.html#incart_river

8 Asian grass carp caught in Great Lakes already this year
http://www.mlive.com/news/index.ssf/2015/09/grass_carp_lake_erie.html#incart_river

Muskegon County, Mona Lake Watershed Council celebrate permit approval to address lake's algae blooms, phosphorous
http://www.mlive.com/news/muskegon/index.ssf/2015/09/muskegon_county_mona_lake_wate.html

Lumber mill debris being dredged from Muskegon Lake as part of $5 million cleanup
http://www.mlive.com/news/muskegon/index.ssf/2015/10/lumber_mill_debris_being_dredg.html#incart_river

Michigan's Adventure sewage increase request will go to public hearing
http://www.mlive.com/news/muskegon/index.ssf/2015/10/michigans_adventure_sewage_inc_1.html#incart_river

New EPA smog limit praised by mayor of Michigan's 2nd largest city
http://www.mlive.com/news/index.ssf/2015/10/heartwell_epa_ozone_smog.html

Michigan Radio: Preparing for the unthinkable: an oil spill in the Straits of Mackinac
http://michiganradio.org/post/preparing-unthinkable-oil-spill-straits-mackinac

Lawmaker wants to ban Great Lakes fish farms
http://michiganradio.org/post/lawmaker-wants-ban-great-lakes-fish-farms

The Blade: Michigan works to rid Lake Erie of phosphorus
Officials say Ohio must do more to limit rural wastewater runoff
https://www.toledoblade.com/local/2015/09/30/Michigan-works-to-rid-Lake-Erie-of-phosphorus.html

The Daily Mining Gazette: Public hearing to be held
http://www.mininggazette.com/page/content.detail/id/548002/Public-hearing-to-be-held.html?nav=5006
The Mining Journal: L'Anse power plant now following emissions?
http://www.miningjournal.net/page/content.detail/id/626633/L-Anse-power-plant-now-following-emissions-.html?nav=5243

The Oakland Press: Office of the Great Lakes' 30-year water strategy must advocate against nuclear waste dump
http://www.theoaklandpress.com/apps/pbcs.dll/article?avis=OP&date=20150928&category=LOCAL1&lopenr=150929558&Ref=AR&profile=1033654&template=printart

US News and World Report: EPA tightens limits on oil refineries as agency prepares for fight over new smog standard
http://www.usnews.com/news/business/articles/2015/09/29/epa-set-to-tighten-smog-limits-as-business-gears-for-fight

WZZM13: Public meeting scheduled over theme park's wastewater
http://www.wzzm13.com/story/news/local/muskegon/2015/09/30/michigans-adventure/73130278/

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of September 28, 2015

Articles related to the Flint Water Issue:

Al Jazeera America: Researchers: Lead levels up after Flint switches to cheaper water supply
http://america.aljazeera.com/articles/2015/9/25/the-contaminated-water-of-a-financial-crisis.html

ClickonDetroit: Public health emergency declared due to lead in Flint water
http://www.clickondetroit.com/news/public-health-emergency-declared-due-to-lead-in-flint-water/35601670?ens=1&utm_source=Local+Breaking+News&utm_medium=email&utm_campaign=Breaking+News+Alerts_54fe12cc0cf293a65e21650d_det&utm_content=20151001_1436

Detroit Free Press: Snyder finally says lead in Flint water may be problem
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Governor helped hush-hush delivery of water filters to Flint pastors
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City administrator asks Detroit about reconnecting Flint to Lake Huron
http://www.mlive.com/news/flint/index.ssf/2015/09/city_administrator_asks_detroi.html

Genesee county board sets press conference discussing Flint's water crisis
http://www.mlive.com/news/flint/index.ssf/2015/10/genesee_county_board_to_hold_p.html#incart_river

Petition launched for EPA intervention in Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/10/greater_flint_aclu_holds_meeti.html#incart_river_home

Budget bill add-on awaits future state funds for Flint water
http://www.mlive.com/news/flint/index.ssf/2015/10/state_sen_ananich_sets_stage_f.html#incart_story_package

Michigan Radio: Who's to blame for Flint's water crisis? Virginia Tech researcher points the finger at MDEQ
http://michiganradio.org/post/whos-blame-flints-water-crisis-virginia-tech-researcher-points-finger-mdeq

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Flint Water Study: COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis
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Other News Articles:

Detroit Free Press: Fish farms threaten Great Lakes
http://www.freep.com/story/sports/outdoors/2015/09/26/outdoors-fish-farms-great-lakes/72911208/

EP News Wire: House panel to hold hearing on Great Lakes Restoration Initiative
http://epnewswire.com/stories/510640249-house-panel-to-hold-hearing-on-great-lakes-restoration-initiative

LSJ: Editorial: Regulations exist for a reason
http://www.lansingstatejournal.com/story/opinion/editorials/2015/09/27/editorial-regulations-exist-reason/72962644/

Livingston Daily: Environmental businessmen reach deal in felony case
http://www.livingstondaily.com/story/news/local/community/brighton/2015/09/28/businessmen-reach-plea-deal-felony-case/72830528/?from=global&sessionKey=i5TEHSosZtesOR8Km7dDPx2FOwImaBDK4V-18x2dg0ykfJgytbhCebRgM0lgDAx3Dx3DCWfDf247osx2BOvV4Fs5L8kgx3Dx3D-7OiaAuMyZ0DZnpDlwH5hggx3Dx3D-BSbDHxx3VpNx2BzSS4fs9Qckgx3Dx3D&autologin=Hx2BZA77c0x2BWoNgJigcepoU5TXXdGZMGtrC49DeQw0Irsx3D

MLive: In toxic Lake Erie algae battle, Michigan shows a sign of progress
http://www.mlive.com/news/index.ssf/2015/09/phosphorus_in_lake_erie_tribut.html#incart_river

8 Asian grass carp caught in Great Lakes already this year
http://www.mlive.com/news/index.ssf/2015/09/grass_carp_lake_erie.html#incart_river

Muskegon County, Mona Lake Watershed Council celebrate permit approval to address lake's algae blooms, phosphorous
http://www.mlive.com/news/muskegon/index.ssf/2015/09/muskegon_county_mona_lake_wate.html

Lumber mill debris being dredged from Muskegon Lake as part of $5 million cleanup
http://www.mlive.com/news/muskegon/index.ssf/2015/10/lumber_mill_debris_being_dredg.html#incart_river

Michigan's Adventure sewage increase request will go to public hearing
http://www.mlive.com/news/muskegon/index.ssf/2015/10/michigans_adventure_sewage_inc_1.html#incart_river

New EPA smog limit praised by mayor of Michigan's 2nd largest city
http://www.mlive.com/news/index.ssf/2015/10/heartwell_epa_ozone_smog.html

Michigan Radio: Preparing for the unthinkable: an oil spill in the Straits of Mackinac
http://michiganradio.org/post/preparing-unthinkable-oil-spill-straits-mackinac

Lawmaker wants to ban Great Lakes fish farms
http://michiganradio.org/post/lawmaker-wants-ban-great-lakes-fish-farms

The Blade: Michigan works to rid Lake Erie of phosphorus
Officials say Ohio must do more to limit rural wastewater runoff
https://www.toledoblade.com/local/2015/09/30/Michigan-works-to-rid-Lake-Erie-of-phosphorus.html

The Daily Mining Gazette: Public hearing to be held
http://www.mininggazette.com/page/content.detail/id/548002/Public-hearing-to-be-held.html?nav=5006

The Mining Journal: L'Anse power plant now following emissions?
http://www.miningjournal.net/page/content.detail/id/626633/L-Anse-power-plant-now-following-emissions-.html?nav=5243

The Oakland Press: Office of the Great Lakes' 30-year water strategy must advocate against nuclear waste dump
http://www.theoaklandpress.com/apps/pbcs.dll/article?avis=OP&date=20150928&category=LOCAL1&lopenr=150929558&Ref=AR&profile=1033654&template=printart

US News and World Report: EPA tightens limits on oil refineries as agency prepares for fight over new smog standard
http://www.usnews.com/news/business/articles/2015/09/29/epa-set-to-tighten-smog-limits-as-business-gears-for-fight

WZZM13: Public meeting scheduled over theme park's wastewater
http://www.wzzm13.com/story/news/local/muskegon/2015/09/30/michigans-adventure/73130278/

From: Pallone, Maggie (DEQ)
Sent: Friday, October 02, 2015 1:20 PM
To: Wurfel, Sara (GOV)
Cc: Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ)
Subject: Re: Follow-up questions

The answers are below.

On Oct 2, 2015, at 12:31 PM, Wurfel, Sara (GOV) <Wurfels@michigan.gov> wrote:

Sent from my iPhone

Begin forwarded message:

From: "Kaffer, Nancy" <nkaffer@freepress.com>
Date: October 2, 2015 at 12:05:53 PM EDT
To: "Wurfel, Sara (GOV)" <Wurfels@michigan.gov>
Subject: Follow-up questions

- Reviewing my notes, I'm not sure I got a definitive answer from Wyant about corrosion control at the Flint water treatment plant.
  Was corrosion control in use? I'd like a simple yes or no, here – if no, obviously, why not – if yes, what was it, and why was – if any – what sounds like a lesser degree of corrosion control being used? I would like the names of the specific technologies/chemicals that were in use in the past, if in fact corrosion control was being used at the Flint plant, and the specific technologies that will be used going forward.

The plant was using a lime as a means of minimizing corrosion, which is an recognized corrosion control treatment by EPA. The two consequent monitoring results from December 2014 and June 2015 while meeting the action level were deemed optimal and were in fact increasing. As such the State sent s letter in August to require further optimization. We understand the City is going to use orthophosphate to fully optimize its system and that will happen this month.

- Was the MDEQ unaware that there were aging lead service lines in Flint, and that those would increase the lead risk? Were the Flint water treatment folks? Why was this not taken into account in developing the water treatment count?

The DEQ and City were aware that Flint, and many other older communities, has lead service lines. It was the City's decision to use lime as its first treatment option and to monitor to see its effectiveness. In some communities this treatment has been effective corrosion control.

- Wyant said that "two consecutive back to back tests" showed there was a problem; when were those tests performed and when were the results available?

Those test were performed in the six months leading up to Dec. 2014 and again June 2015. The results were made available to the residents that were tested, the City, and all testing results will soon be made available on the Flint water website the state has created. They overall results have always been available in the City's

compliance documents.

Obviously I would like to use this information in a piece we'll have ready to go at 1:30p so ASAP would be great.

Nancy Kaffer
Columnist
Detroit Free Press
www.freep.com/abettermichigan
313-222-6585
@nancykaffer, @abettermi

From: Thelen, Mary Beth (DEQ)
Sent: Friday, October 02, 2015 2:10 PM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators
Cc: DEQ-EXE-MGMT-TEAM-Secretaries;Olszewski, Rosemarie (DEQ);Pattwell, Michael (DEQ);McCauley, Sara (GOV)
Subject: SMT Agenda for Monday, October 5, 8:30
Attachments: SMT Agenda 5October2015.docx

Dear SMT,

Attached is the staff meeting agenda for Monday, October 5, 2015, 8:30.

If I have missed anything, please let me know.

Thank you. Have a great weekend.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

Senior Management Team Meeting
Monday, October 5, 2015
8:30 a.m. – 10:00 a.m.
Great Lakes Conference Room
AGENDA

Call-In No. for District Coordinators: **PPI** Access Code: **PPI**

Director's Report

In-Depth Discussions:

- City of Flint Drinking Water (Director)

Chief Deputy Director's Report

Discussion and Future SMT Meeting Agenda Items

Next SMT Meeting: Monday, October 19, 2015

Future Items of Discussion:
Budget
Long Term Funding
Organizational Excellence
Engagement
Communication Issues

From: Thelen, Mary Beth (DEQ)
Sent: Friday, October 02, 2015 4:51 PM
To: Epkey, Amy (DEQ);Renteria, Sylvia (DEQ);Sygo, Jim (DEQ);Wyant, Dan (DEQ);Anderson, Madhu (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Thelen, Mary Beth (DEQ);Howes, Sarah (DEQ);Tommasulo, Karen (DEQ);Fiedler, David (DEQ);Shaw, Eric (DEQ);Goodhall, Mary (DEQ)
Cc: Shaler, Karen (DEQ);Copen, Leigh (DEQ);Wilcox, Candra (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ)
Subject: Director's 8:00 Exec Leadership Team List for Monday, October 5, 2015, 8:00-8:30

Dear Executive Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Leadership Team meeting on Monday, October 5.
Remember, this is the week where we expand the attendance.

Executive

- Update from the Meeting with the Governor on Recycling – September 23
- Update from the Governor on Enbridge – September 23
- Directors' Schedule this week
- Michigan Petroleum Pipeline Task Force – Implementation of Recommendations
- Pipeline Advisory Council – October 28, 2:30-4:30
- Employee Survey Results – Action Plan
- Organizational Excellence - Nominations due this week on Fit Leaders Conference (Madhu)
- Invasive Carp Updates
- Director's Advisory Council for October 23 - discuss agenda
- Budget
- District Visits – Lansing District on October 12
- Enforcement Policy

Admin (Amy Epkey)

- 2017 Budget Development
- Groundwater Fees – Follwoups
- Updates on Underground Storage Tank Authority
- Michigan Strategic Water Fund
- Administration Division In-Service Suggestions
- Budget

AQD

- 111d Updates
- Air Rules

OGL

- Water Strategy

OEA

- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, October 02, 2015 9:19 PM
To: DEQ-EXE-All
Subject: Video of News Stories in Flint WNEM-TV5 and ABC 12

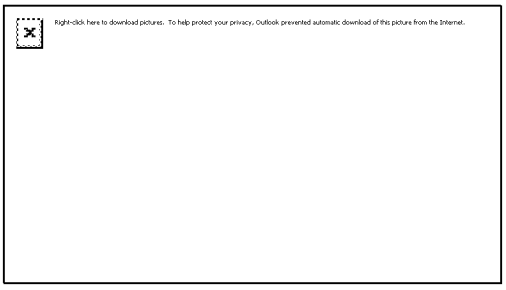
http://www.wnem.com/story/30173159/michigan-pledges-1m-for-filters-steps-to-help-citys-water

Michigan pledges $1M for filters, steps to help city's water - WNEM TV 5

Michigan will spend $1 million to buy water filters and immediately test water in public schools in Flint after testing showed elevated levels of lead in the city's children.

Read more...

http://www.abc12.com/home/headlines/Michigan-DEQ-to-unveil-plan-of-action-for-Flints-Water-Worries-330409021.html



State officials detail plan to address Flint's Water Worries

The Flint River will continue to be the city of Flint's water source as state officials detailed a plan on Friday to address concerns about elevated lead levels in the water.

Read more...

Thought some of you would like to see these stories.

Rosemarie

Rosemarie Olszewski

General Office Assistant - Executive Division

Department of Environmental Quality

525 W. Allegan

Constitution Hall, 6th Floor South Tower Pillar P6

Lansing MI 48933

Ph: 517-284-6700

Fax: 517-241-7401

olszewskir@michigan.gov

From: Krisztian, George (DEQ)
Sent: Tuesday, October 06, 2015 3:56 PM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ)
Subject: FYI

FYI

From: Sackrider, Sarah (DEQ)
Sent: Tuesday, October 06, 2015 2:17 PM
To: Baltusis, Matt (DEQ); Devantier, Daria W. (DEQ); Kline, David (DEQ)
Cc: Joseph, Mark (DEQ); Alexander, Eric (DEQ); Busch, Stephen (DEQ); Wagner, Robert (DEQ); Leeming, Susan (DEQ); Krisztian, George (DEQ)
Subject: RE: Gratiot Area Water Authoritty vs. City of Flint Water Supply Issue

Per Bob, this should go to the Office of Drinking Water lead, Steve Busch.

At this time, Sue may be attending. We will keep you posted.

David Kline: Are you planning on attending?

Thanks!

From: Baltusis, Matt (DEQ)
Sent: Tuesday, October 06, 2015 2:10 PM
To: Devantier, Daria W. (DEQ); Kline, David (DEQ)
Cc: Sackrider, Sarah (DEQ); Joseph, Mark (DEQ); Alexander, Eric (DEQ); Baltusis, Matt (DEQ); Busch, Stephen (DEQ)
Subject: Gratiot Area Water Authoritty vs. City of Flint Water Supply Issue

Tom Alcamo, through advice from Dianne Russell, EPA's Community Involvement Coordinator, recommended that DEQ staff be prepared to answer the following questions asked by reporters at the Ribbon Cutting Ceremony on October 16, 2015:

"How is the water supply system in St. Louis/Alma different from Flint?"

"Will the same issues in Flint occur in this new system?" "If no, why?"

I do not have details of the Flint water system issues.

Are staff preparing talking points regarding these issues? Who will be addressing this issue should the questions arise?

Matthew A. Baltusis, Jr.
Senior Geologist
Michigan Department of Environmental Quality

Remediation and Redevelopment Division
Superfund Section
Geology and Defense Site Management Unit
517.284.5064
baltusism@michigan.gov

From: Krisztian, George (DEQ)
Sent: Tuesday, October 06, 2015 5:20 PM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ)
Subject: FW: Filter Distribution Update
Attachments: Water timeline 10.5 and 10.6.docx

FYI

Please forward to anyone I missed that should be included.

George

From: Dayne Walling [mailto:dwalling@cityofflint.com]
Sent: Tuesday, October 06, 2015 3:57 PM
To: Krisztian, George (DEQ)
Subject: Fwd: Filter Distribution Update

George, I am going to forward you documents that I receive to keep you updated.

---------- Forwarded message ----------
From: **Brickey, Tamara** <tbrickey@gchd.us>
Date: Tue, Oct 6, 2015 at 3:48 PM
Subject: Filter Distribution Update
To: Kirk Smith <ksmith@flint.org>, Jamie Gaskin <jgaskin@unitedwaygenesee.org>, Howard Croft <hcroft@cityofflint.com>, Lreynolds <lrey52@gmail.com>, Dayne Walling <dwalling@cityofflint.com>, Lawrence Reynolds <reynolds@mottchc.org>, Andy Leavitt <aleavitt@senatedems.org>, "Hovey, Amy" <Amy.Hovey@mail.house.gov>, "Valacak, Mark" <MVALACAK@gchd.us>, tony.lasher@redcross.org, Mona Hanna-Attisha <MHanna1@hurleymc.com>, plevine@gcms.org, Melany Gavulic <MGavuli1@hurleymc.com>, neeleyrep34@gmail.com, Natasha Henderson <nhenderson@cityofflint.com>, banerjeea@mottchc.org, "Boyer, Jenifier" <JBoyer@co.genesee.mi.us>, "Swartout, April" <ASWARTOUT@gchd.us>

Hi all,

Please see the attached for the update as of today.

Thanks,

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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From: Brickey, Tamara
Sent: Thursday, October 01, 2015 6:39 PM
To: 'Kirk Smith'; Jamie Gaskin; Howard Croft; Lreynolds; Dayne Walling; Lawrence Reynolds; Andy Leavitt; Hovey, Amy; Valacak, Mark; tony.lasher@redcross.org; Mona Hanna-Attisha; plevine@gcms.org; Melany Gavulic; neeleyrep34@gmail.com; Natasha Henderson; banerjeea@mottchc.org
Subject: Filter Distribution Update

Hi all,

I would like to provide an update on how today has unfolded and where plans currently stand.

- The University of Michigan-Flint has agreed to be our point of dispensing. They are graciously giving us space and helping us obtain volunteers, as well as helping us with logistical set up, and security/police.

- United Way is having approximately 4,000 water filters delivered via the Home Depot to the University of Michigan-Flint Recreation Center. Hilda McShane (GCHD) is helping to facilitate this with Jamie and the U of M-Flint staff.

- GCHD staff met with U of M-Flint Recreation Center staff today for a walk through. I will be working on a set up map tonight, and providing U of M-Flint with details for our volunteers.

- U of M-Flint has also asked for recommendations on water filters for their campus. We will be sending them the same list shared with the United Way.

- Following the recommendations of this group, GCHD has produced a list of priority groups to receive filters. Please see attached.

- We are still awaiting data from MDHHS to do GIS mapping for our WIC clients.

- GCHD will utilize a list of known WIC clients within the target areas and the city of Flint, and do call outs tomorrow to clients to inform them of the water filters that will be available. We had hoped to reach the clients in the recognized target area first, however, due to media coverage we do not anticipate that it will be possible to limit to that specific area of Flint. We will be limiting to those listed as priority 1-4 on the attached sheet.

- With the urging of U of M-Flint, due to security concerns, filter distribution will begin on **Saturday, October 3 at 10am.** Volunteers and staff will be reporting at 8am.

- 3pm today, Genesee County announced via press conference that there is an official public health emergency declaration.

- If any filters remain after distribution, they will be stored with Mott Children's Health or at GCHD depending on volume.

- If further filters are obtained, assistance from the Red Cross will be necessary.

- 10:30am a press conference announcing the filter distribution and demonstration on how to use them will occur at the University of Michigan-Flint Happenings Room.

That I believe is the run down for today. Thank you to everyone who has provided input and feedback as needed. We are continuing to work with U of M-Flint and all of the partners on logistical needs, and will give further updates as they are available.

Thanks,

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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From: Kirk Smith [mailto:ksmith@flint.org]
Sent: Thursday, October 01, 2015 1:08 PM
To: Brickey, Tamara
Cc: Jamie Gaskin; Howard Croft; Lreynolds; Dayne Walling; Lawrence Reynolds; Andy Leavitt; Hovey, Amy; Valacak, Mark; tony.lasher@redcross.org; Mona Hanna-Attisha; plevine@gcms.org; Melany Gavulic; neeleyrep34@gmail.com; Natasha Henderson; banerjeea@mottchc.org
Subject: FW: Filter Distribution Planning Brief

Hi Tamara,

I was just speaking with Jamie Gaskin on a few updates. He shared that there was a Health Department meeting you were holding at 2:00 p.m. today (he thought) regarding the developing filter distribution strategy.

Based on what he shared (below) of who he was aware was invited (we were not, and that's fine), I want to confirm you have the relevant data to inform your strategy, e.g. data from Dr. Mona and her research team (GIS mapping), Howard Croft (lead service line detail), Andy Leavitt in Senator Ananich's office, etc. to inform the strategic distribution process. Given the limited number of filters compared to the number of homes in the city, we've had strong consensus that initial resources go to the families and community sites most in need. There is a great deal of information out there to inform the process.

Can you provide an update for those of us who have been removed from the loop yet are still fielding lots of questions and working to secure additional resources for households in the city?

Thank you for your efforts on this important matter.

Kirk Smith, MHSA

President & CEO

Greater Flint Health Coalition

(810) 232-2228

ksmith@flint.org

-----Original Appointment-----
From: Brickey, Tamara [mailto:tbrickey@gchd.us]
Sent: Thursday, October 01, 2015 9:11 AM
To: Brickey, Tamara; Valacak, Mark; Swartout, April; Swain, Ann R.; McShane, Hilda; JBoyer@co.genesee.mi.us; Jamie Gaskin; Henry, James
Subject: Filter Distribution Planning Brief
When: Thursday, October 01, 2015 7:30 PM-9:00 PM America/New_York.
Where: GCHD Burton Health Clinic G-3373 S. Saginaw St, Burton, Michigan 48529

Hi all,

At this meeting GCHD will give information on locations for water filters to be distributed, a draft time line, what our staff are already doing, and needs from partners. I hope you can join us.

Thanks,

Tamara Brickey

--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com
www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling

Monday – Met with DHHS and a follow up with United Way to discuss future filter distribution. GCCARD and DHHS will team up to distribute 20,000 water filters to area families. GCCARD will get seniors through Meals on Wheels and Senior Services. Work is being done in the Flint schools, providing filtered water in classrooms and zero water bottles for after school athletics. GCCARD and DHHS will be distributing water filters starting tomorrow from 9-4pm. Plans are also in place to provide pitcher filters for households where tap filters won't work. 211 will be a resource line.

Health Department: Put together FAQs for 211 to use for lead questions. Update our water information line. Hilda will be point person for information. Chris Mann and IT will work on a cloud based system that partners can use for a distribution list.

Monday afternoon – Taura Howard complied information collected at Saturday's event, and this was sent out to partners by Tamara. Hilda contacted partners and put out media list. Jim Henry is working on FAQs.

Tuesday – Debriefing meeting with U of M-Flint about Saturday event. Everyone in the room agreed the event with well, and with minor adjustments for future, things can go better. Definitely a need in future for IT support. Student groups need standing volunteer agreements. Zip Code lines went well, but for future, remember that 48501 and 48502 do not house many residents. U of M-Flint would like to continue to be used as a resource to coordinate community events.

Jamie Gaskin is working with PUR, and received news that they are willing to donate an additional 2,000 units. The health department has agreed to store these additional units.

Chris Mann is still working on the cloud based system (as of 3pm), and FAQs are still being created by Jim Henry. The health department is working with Hurley to get filters out for distribution to home visiting services, with the goal of starting this distribution tomorrow (Wednesday). GCHD will also be obtaining 100 filters for the Primary Care Clinic at McCree, and 300 filters for distribution at WIC. 100 filters will also be at AIDS Wellness for distribution to their clients. These filters will be picked Wednesday morning.

The health department has provided 211 with lead fact sheets.

GCHD debriefing meeting is still to be scheduled.

From: Krisztian, George (DEQ)
Sent: Wednesday, October 07, 2015 10:52 AM
To: Dayne Walling;Natasha Henderson;Howard Croft;Sygo, Jim (DEQ);Wyant, Dan (DEQ)
Cc: Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ)
Subject: RE: Filter Distribution Update

Mayor,

I have a follow-up to my previous e-mail. We were able to obtain confirmation from DHHS that Brita filter: "Brita Faucet Filtration System SAFF-100" is NSF certified for the removal of lead.

Please see the information below that I received to substantiate this I highlighted the portion relevant to Lead.

NSF/ANSI 53
Drinking Water Treatment Units - Health Effects

The Brita Products Company

1221 Broadway
Oakland, CA 94612
United States
800-24-BRITA

Facility : # 1 Brampton, Ontario, Canada

Brand Name / Trade Name / Model	Replacement Element	Service Cycle (gallons)	Flow Rate (gpm)	Claim
Faucet Mount				
Brita Faucet Filtration System SAFF-100	FR-200	100(1)	.58	2,4-D Reduction Asbestos Reduction Alachlor Reduction Atrazine Reduction Benzene Reduction Carbofuran Reduction Carbon Tetrachloride Reduction Chlordane Reduction Chlorobenzene Reduction Endrin Reduction Ethylbenzene Reduction **Lead Reduction**

Lindane Reduction
Methoxychlor Reduction
O-Dichlorobenzene Reduction
Simazine Reduction
Styrene Reduction
Tetrachloroethylene Reduction
Toluene Reduction
Toxaphene Reduction
Trichloroethylene Reduction
Trihalomethanes (TTHM) Reduction
Turbidity Reduction
VOC Reduction

Thank you
George

From: Dayne Walling [mailto:dwalling@cityofflint.com]
Sent: Wednesday, October 07, 2015 8:32 AM
To: Krisztian, George (DEQ); Natasha Henderson; Howard Croft
Subject: Fwd: Filter Distribution Update

Please see the screenshot from Amy Hovey. Which filter distribution is this referring to? Who is distributing Brita filters that are not certified for lead? We made a clear statement on Saturday that the PUR faucet filters were NSF certified and on the list also recommended by Dr. Edwards. Please fill me in.
Thanks

---------- Forwarded message ----------
From: **Hovey, Amy** <Amy.Hovey@mail.house.gov>
Date: Tue, Oct 6, 2015 at 5:14 PM
Subject: RE: Filter Distribution Update
To: "Brickey, Tamara" <tbrickey@gchd.us>, Kirk Smith <ksmith@flint.org>, Jamie Gaskin <jgaskin@unitedwaygenesee.org>, Howard Croft <hcroft@cityofflint.com>, Lreynolds <lrey52@gmail.com>, Dayne Walling <dwalling@cityofflint.com>, Lawrence Reynolds <reynolds@mottchc.org>, Andy Leavitt <aleavitt@senatedems.org>, "Valacak, Mark" <MVALACAK@gchd.us>, "tony.lasher@redcross.org" <tony.lasher@redcross.org>, Mona Hanna-Attisha <MHanna1@hurleymc.com>, "plevine@gcms.org" <plevine@gcms.org>, Melany Gavulic <MGavuli1@hurleymc.com>, "neeleyrep34@gmail.com" <neeleyrep34@gmail.com>, Natasha Henderson <nhenderson@cityofflint.com>, "banerjeea@mottchc.org" <banerjeea@mottchc.org>, "Boyer, Jenifier" <JBoyer@co.genesee.mi.us>, "Swartout, April" <ASWARTOUT@gchd.us>

Does anyone have an update on the filters that are being passed out that do not filter out lead? We have received several calls on this issue today. I have attached on unhappy customer's comments.

Any update would be helpful.

Amy Hovey

District Chief of Staff

Congressman Dan Kildee (MI-05)

111 East Court Street, #3B.

Flint, MI 48502

Phone: 810-238-8627

www.dankildee.house.gov



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***WE MOVED!* Please note that our OFFICES HAVE RELOCATED**

From: Brickey, Tamara [mailto:tbrickey@gchd.us]
Sent: Tuesday, October 06, 2015 3:48 PM
To: Kirk Smith; Jamie Gaskin; Howard Croft; Lreynolds; Dayne Walling; Lawrence Reynolds; Andy Leavitt; Hovey, Amy; Valacak, Mark; tony.lasher@redcross.org; Mona Hanna-Attisha; plevine@gcms.org; Melany Gavulic; neeleyrep34@gmail.com; Natasha Henderson; banerjeea@mottchc.org; Boyer, Jenifier; Swartout, April
Subject: Filter Distribution Update

Hi all,

Please see the attached for the update as of today.

Thanks,

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Brickey, Tamara
Sent: Thursday, October 01, 2015 6:39 PM
To: 'Kirk Smith'; Jamie Gaskin; Howard Croft; Lreynolds; Dayne Walling; Lawrence Reynolds; Andy Leavitt; Hovey, Amy; Valacak, Mark; tony.lasher@redcross.org; Mona Hanna-Attisha; plevine@gcms.org; Melany Gavulic; neeleyrep34@gmail.com; Natasha Henderson; banerjeea@mottchc.org
Subject: Filter Distribution Update

Hi all,

I would like to provide an update on how today has unfolded and where plans currently stand.

- The University of Michigan-Flint has agreed to be our point of dispensing. They are graciously giving us space and helping us obtain volunteers, as well as helping us with logistical set up, and security/police.

- United Way is having approximately 4,000 water filters delivered via the Home Depot to the University of Michigan-Flint Recreation Center. Hilda McShane (GCHD) is helping to facilitate this with Jamie and the U of M-Flint staff.

- GCHD staff met with U of M-Flint Recreation Center staff today for a walk through. I will be working on a set up map tonight, and providing U of M-Flint with details for our volunteers.

- U of M-Flint has also asked for recommendations on water filters for their campus. We will be sending them the same list shared with the United Way.

- Following the recommendations of this group, GCHD has produced a list of priority groups to receive filters. Please see attached.

- We are still awaiting data from MDHHS to do GIS mapping for our WIC clients.

- GCHD will utilize a list of known WIC clients within the target areas and the city of Flint, and do call outs tomorrow to clients to inform them of the water filters that will be available. We had hoped to reach the clients in the recognized target area first, however, due to media coverage we do not anticipate that it will be possible to limit to that specific area of Flint. We will be limiting to those listed as priority 1-4 on the attached sheet.

- With the urging of U of M-Flint, due to security concerns, filter distribution will begin on **Saturday, October 3 at 10am.** Volunteers and staff will be reporting at 8am.

- 3pm today, Genesee County announced via press conference that there is an official public health emergency declaration.

- If any filters remain after distribution, they will be stored with Mott Children's Health or at GCHD depending on volume.

- If further filters are obtained, assistance from the Red Cross will be necessary.

- 10:30am a press conference announcing the filter distribution and demonstration on how to use them will occur at the University of Michigan-Flint Happenings Room.

That I believe is the run down for today. Thank you to everyone who has provided input and feedback as needed. We are continuing to work with U of M-Flint and all of the partners on logistical needs, and will give further updates as they are available.

Thanks,

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Kirk Smith [mailto:ksmith@flint.org]
Sent: Thursday, October 01, 2015 1:08 PM
To: Brickey, Tamara
Cc: Jamie Gaskin; Howard Croft; Lreynolds; Dayne Walling; Lawrence Reynolds; Andy Leavitt; Hovey, Amy; Valacak, Mark; tony.lasher@redcross.org; Mona Hanna-Attisha; plevine@gcms.org; Melany Gavulic; neeleyrep34@gmail.com; Natasha Henderson; banerjeea@mottchc.org
Subject: FW: Filter Distribution Planning Brief

Hi Tamara,

I was just speaking with Jamie Gaskin on a few updates. He shared that there was a Health Department meeting you were holding at 2:00 p.m. today (he thought) regarding the developing filter distribution strategy.

Based on what he shared (below) of who he was aware was invited (we were not, and that's fine), I want to confirm you have the relevant data to inform your strategy, e.g. data from Dr. Mona and her research team (GIS mapping), Howard Croft (lead service line detail), Andy Leavitt in Senator Ananich's office, etc. to inform the strategic distribution process. Given the limited number of filters compared to the number of homes in the city, we've had strong consensus that initial resources go to the families and community sites most in need. There is a great deal of information out there to inform the process.

Can you provide an update for those of us who have been removed from the loop yet are still fielding lots of questions and working to secure additional resources for households in the city?

Thank you for your efforts on this important matter.

Kirk Smith, MHSA

President & CEO

Greater Flint Health Coalition

(810) 232-2228

ksmith@flint.org

-----Original Appointment-----
From: Brickey, Tamara [mailto:tbrickey@gchd.us]
Sent: Thursday, October 01, 2015 9:11 AM
To: Brickey, Tamara; Valacak, Mark; Swartout, April; Swain, Ann R.; McShane, Hilda; JBoyer@co.genesee.mi.us; Jamie Gaskin; Henry, James
Subject: Filter Distribution Planning Brief
When: Thursday, October 01, 2015 7:30 PM-9:00 PM America/New_York.
Where: GCHD Burton Health Clinic G-3373 S. Saginaw St, Burton, Michigan 48529

Hi all,

At this meeting GCHD will give information on locations for water filters to be distributed, a draft time line, what our staff are already doing, and needs from partners. I hope you can join us.

Thanks,

Tamara Brickey

--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com
www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling

From: Krisztian, George (DEQ)
Sent: Wednesday, October 07, 2015 4:51 PM
To: Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ)
Attachments: FLINT SCHOOL TESTING RESULTS.docx

DRAFT INFORMATION

Brad,

Per your request

FLINT SCHOOL TESTING RESULTS:

WHAT DID WE FIND?

1) The results of the initial screening conducted over the course of the last week are consistent with the last round of community lead and copper testing.

2) There were a total of 37 samples taken from 13 schools. Of those 37 samples, 4 exceeded the 15 ppb action level. There were 3 schools that had samples exceeding the action level: Eisenhower Elementary (which had two samples exceeding 15 ppb). Brownell STEM Academy and Freeman Elementary each had one sample exceeding 15 PPB. The sample from Freeman Academy was significantly higher than the other samples at 101 PPB.

3) Looking at the data from a health based perspective, the data clearly demonstrates that more detailed sampling needs to occur so that the various sources of lead contamination contained within each respective school's plumbing can be identified and addressed.

WHAT DOES THE DATA MEAN?

1) The data underscores the need for a complete and thorough evaluation of the plumbing system within each school.

2) We have developed a protocol for evaluating the plumbing systems and we will be working with schools to implement these protocols and to assist them in determining a corrective action plan to address this issue.

3) The State is identifying staff within DEQ, DHHS, LARA and Local County Health Departments to assist schools in conducting evaluations of their plumbing systems.

WHAT IS YOUR PROTOCOL?

1) DEQ's protocols are based on similar work done in Michigan and in other States.

2) Multiple samples from each tap used for cooking or drinking water will be collected at prescribed intervals to identify levels of lead and its likely source.

3) Once an evaluation is complete, we will be able to assist each School in developing a comprehensive plan to address issues on a site specific basis.

HOW DO SCHOOLS RESPOND?

1) Schools should continue protective measures that are currently in place until such time that a complete study can be conducted at each school. This includes the continued use of bottled water for consumption purposes.

2) We will be reaching out to schools in order to schedule a complete evaluation, assessment and sampling, of their plumbing systems.

THE INFORMATION BELOW IS FOR A SEPARATE TOPIC

- Lime Softening has the effect of elevating the pH in water

- The pH of the water is one physical characteristic that can affect the leaching of lead from pipes into the water
- As per the requirements in the Lead/Copper rule the Flint Water system was evaluated for two consecutive monitoring periods and the results of the monitoring demonstrated that further action was necessary.
- The DEQ promptly notified the Flint water system of the need for additional measures and the city of Flint promptly began putting together an action plan to address this need.

From: Pallone, Maggie (DEQ)
Sent: Wednesday, October 07, 2015 6:11 PM
To: Shaler, Karen (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: Flint Water FY 2016 Supplemental Budget Request
Attachments: Flint Water FY 2016 Supplemental Budget Request.docx

DRAFT Flint Water FY 2016 Supplemental Budget Request

1. $1 Million for Filters

The $1 million for filters will be used to purchase filters for households in Flint that do not qualify for assistance under any of the DHHS assistance programs. Filters for those residents will be paid for out of funding already in place in DHHS' budget. Each filter cost $20 and were ordered in bulk through Home Depot. Filters are being distributed through local public health, with documentation filed for each filter handed out.

2. $6 Million for switch from Flint River to DWSD

The City of Flint estimates it will cost the City an additional $1.3 million per month to use DWSD instead of the Flint River. The State and the City agreed to split the cost until June 2016, when the new Karegnondi Water Authority will be completed and Flint will switch to that water source. ($1.3 million for 9 months)

3. $1.5 Million for staff resources to do community Lead Exposure Testing

DEQ, DHHS and LARA are assembling a team to go into schools and high risk homes to test for lead exposure. The request is for 8 staff for DHHS, 2 staff for DEQ and 1 staff for LARA.

4. $1 Million for evaluating sample results at the State Lab

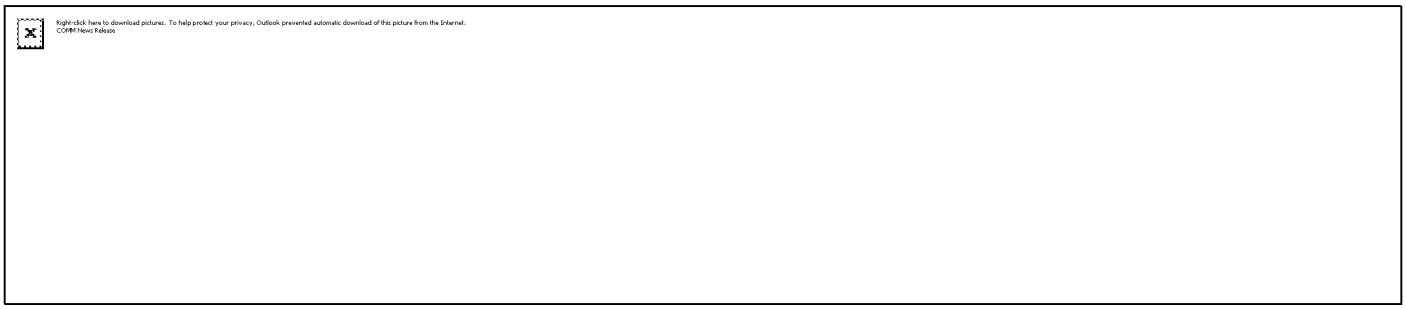
The new testing protocols for schools will require each faucet in the school to be tested and evaluated at the State lab. In addition, lead exposure testing in homes will result in tens of thousands more samples that will be need to processed. Each sample costs $26 to process.

Total Ask: $9.5 Million

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, October 08, 2015 10:49 AM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators
Cc: DEQ-EXE-MGMT-TEAM-Secretaries;Olszewski, Rosemarie (DEQ)
Subject: FW: NEWS RELEASE: Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint

FYI as needed.

From: GOV Newsroom [mailto:govnewsroom@govsubscriptions.michigan.gov]
Sent: Thursday, October 08, 2015 10:23 AM
To: Thelen, Mary Beth (DEQ)
Subject: NEWS RELEASE: Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint



CONTACTS:

Sara Wurfel or Dave Murray

Governor's Office: 517-335-6397

Brad Wurfel, 517-284-6713

Department of Environmental Quality

Jennifer Eisner, 517-230-9804

Department of Health and Human Services

Kathryn Thomas, 810-766-1734 Mott Foundation

Jason Lorenz, 810-237-2039 City of Flint

FOR IMMEDIATE RELEASE

Thursday, Oct. 8, 2015

Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint

State, city, Mott Foundation, join to fund switch until KWA is ready

FLINT, Mich. – Flint families and children will be better protected by reconnecting with the Great Lakes Water Authority as the source of the city's drinking water until the Karegnondi Water Authority pipeline is completed, Gov. Rick Snyder said.

Snyder said Thursday that he will request the state Legislature to provide half, or $6 million, of the $12 million needed to reconnect with the authority through next summer, when the KWA is expected to be completed. The Flint city government will provide $2 million and the Charles Stewart Mott Foundation has committed $4 million.

"All Flint residents need clean, safe drinking water," Snyder said. "The technical experts helping the city on its water advisory all agree this move back to the Great Lakes Water Authority provides the best public health protection for children and families. This effort today is the result of people coming together to solve a problem. I appreciate Detroit's willingness to reconnect with Flint, the Mott Foundation's generous commitment, and the dedication of all parties to come together to protect Flint families and children."

Flint city leaders requested the state's help to fund the reconnection and to assist with health and infrastructure issues. Flint's move to the Great Lakes Water Authority is expected to cost about $1.3 million per month until the Karegnondi Water Authority is completed next summer.

"It's heartening to know so many people are working at so many levels to bring safe, clean water back to Flint," Mott Foundation President Ridgway White said. "We believe this transitional solution is the right and necessary thing to do, and we're glad we could help the state and the city make it happen."

The move to Detroit water, which is expected to carry, carries many public health benefits. As large bodies of water, the Great Lakes are naturally prone to fewer problems from large rain events and other runoff issues that can sometimes be present in shallower rivers. Additionally, the Great Lakes Water Authority water already has additional corrosion control, using phosphates to help coat the insides of pipes and limit lead from leaching into the water.

However, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control. Additionally, some households in the city could experience lead in their drinking water until all lead pipes and plumbing are replaced.

"Reconnecting to Detroit is the fastest way to deliver clean, safe water to Flint and stabilize the infrastructure system," Flint Mayor Dayne Walling said. "I appreciate the state, the Mott Foundation, Detroit, and the county's participation in a solution for Flint's water problems. The health and safety of Flint's families, children and seniors is my top priority, and reconnecting to Detroit is a major step that the city could not take alone given budget constraints."

To best protect public health, Snyder said state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure. The Michigan Departments of Environmental Quality and Health and Human Services today also committed an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

Free filters are available for current MDHHS clients at the 125 E. Union St. or 4809 Clio Road MDHHS office locations. For residents who are not currently enrolled in MDHHS assistance

programs, free filters are available at the Genesee County Community Action Resource Department offices at 2727 Lippincott and 601 North Saginaw in Flint. Staff will be at all four locations from 9 a.m. to 4 p.m., Monday through Friday, to distribute filters and assist residents who have questions about proper installation. At the Lippincott location only, extended hours will be offered this weekend, including until 7 p.m. on Thursday and Friday and from 10 a.m. to 2 p.m. on Saturday.

Other good practices for residents concerned about lead include turning on the cold water tap and running the water until it's as cold as it will go. Additionally, only use cold water for cooking, drinking and especially mixing baby formula.

School test results released; more investigation planned

The state today also released the first results from its lead screening program in schools and homes. Of 37 total samples taken at 13 buildings, four samples spread over three buildings exceeded the federal action level of 15 parts per billion.

However, this sampling provides only an initial screen, and the state is committing to further testing water and inspecting plumbing at these schools. Until testing is complete, schools are advised to continue using bottled water and filtration as a precaution to protect children.

In addition, free testing is still available for any other Flint school, including daycares and Head Starts. Free testing is also available for any Flint resident.

Additional information, including more detailed lead screening results, is available at www.michigan.gov/flintwater.

###

STAY CONNECTED:

This email was sent to thelenm2@michigan.gov on behalf of: The Executive Office of the Governor · 111 South Capitol Avenue · Lansing, MI 48909 · 517-335-7858

From: Tommasulo, Karen (DEQ)
Sent: Thursday, October 08, 2015 2:50 PM
To: Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Krisztian, George (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ)
Subject: FW: School testing results PDF
Attachments: Flint Community Schools Testing Results Initial Screen.pdf

This is what George produced (and Eric and Bob added a title and formatting to) for public consumption on the website.

This should have all the relevant info for schools.

From: Andorfer, Bob (MDARD)
Sent: Thursday, October 08, 2015 2:47 PM
To: Tommasulo, Karen (DEQ)
Subject: School testing results PDF

As requested

Bob Andorfer
Electronic Media Coordinator
Office of Communications
Michigan Department of Agriculture & Rural Development
http://michigan.gov/mdard
517-284-5726

Flint Community Schools Testing Results - Initial Screen October 2, 2015

ANALYTE	RESULT (mg/L)	Address	Sample Description	Collection Date
Lead	0.004	1040 N SAGINAW ST	3RD FLOOR CAFETERIA	02-Oct-15
Lead	0.007	1040 N SAGINAW ST	1ST FLOOR FTN	02-Oct-15
Lead	0.009	1040 N SAGINAW ST	2ND FLOOR LOWER FTN	02-Oct-15
Lead	0.001	1101 W VERNON DR PIERCE ELEMENTARY	CUSTODIAN OFFICE DRINKING FOUNTAIN	02-Oct-15
Lead	0.003	1101 W VERNON DR PIERCE ELEMENTARY	None Provided	02-Oct-15
Lead	0.008	1101 W VERNON DR PIERCE ELEMENTARY	DRINKING FOUNTAIN MAIN HALL	02-Oct-15
Lead	0.009	1420 W TWELFTH	DRINKING FOUNTAIN	02-Oct-15
Lead	0.015	1420 W TWELFTH	DRINKING FTN BY RM 3	02-Oct-15
Lead	0.007	1420 W TWELFTH ST	ACROSS FROM CAFETERIA DRINKING FTN	02-Oct-15
Lead	0.005	1518 UNIVERISTY AVE	GYM/POOL DRINKING FTN	02-Oct-15
Lead	0.001	1518 UNIVERSITY AVE	3RD FLOOR FOUNTAIN	02-Oct-15
Lead	0.002	1518 UNIVERSITY AVE	2ND FLOOR FOUNTAIN	02-Oct-15
Lead	0.001	2010 CRESTBROOK SCHOOL	LOWER DRINK FTN	02-Oct-15
Lead	0.002	2010 CRESTBROOK SCHOOL	HIGH DRINK FTN	02-Oct-15
Lead	0.001	2500 N AVERILL SCHOOL	HIGH DRINK FTN SO ENTRANCE	02-Oct-15
Lead	Not detected	2500 N AVERILL SCHOOL	HIGH DRINK FTN ACROSS FRM TEACH	02-Oct-15
Lead	0.004	305 WALNUT ST	KITCHEN FOOD PREP SINK	02-Oct-15
Lead	0.006	305 WALNUT ST	DRINKING FTN	02-Oct-15
Lead	0.009	305 WALNUT ST CENTRAL KITCHEN	KITCHEN FOOD PREP	02-Oct-15
Lead	0.002	923 E KEARSLEY	1ST FL DRINK FTN	02-Oct-15
Lead	0.005	923 E KEARSLEY	2ND FL BTN 207 & WMS RSTRM	02-Oct-15
Lead	0.003	923 E KEASLEY ADMIN	BASEMENT ADMIN	02-Oct-15
Lead	0.002	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN ROOM 12	02-Oct-15
Lead	0.005	BROWNELL S T E M ACADEMY	DRINK FTN GYM BATHRM	02-Oct-15
Lead	0.031	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN RM 6 & 7	02-Oct-15
Lead	0.003	EISENHOWER ELEMENTARY	FOUNTAIN GYM	02-Oct-15
Lead	0.016	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 209	02-Oct-15
Lead	0.028	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 102	02-Oct-15
Lead	0.003	FREEMAN ELEMENTARY	FOUNTAIN NORTH END OF BLDG	02-Oct-15
Lead	0.008	FREEMAN ELEMENTARY	FOUNTAIN MIDDLE AT SCHOOL	02-Oct-15
Lead	0.101	FREEMAN ELEMENTARY	FOUNTAIN SO END OF BLDG	02-Oct-15
Lead	0.002	HOLMES S T E M ACADEMY	DRINK FOUNTAIN D114	02-Oct-15
Lead	Not detected	HOLMES S T E M ACADEMY	DRINK FOUNTAIN BLUE HALLWAY C109	02-Oct-15
Lead	Not detected	HOLMES S T E M ACADEMY	DRINKING FOUNTAIN OFFICE	02-Oct-15
Lead	0.002	NORTHWESTERN HIGH SCHOOL	DRINKING FTN LIBRARY NORTH	02-Oct-15
Lead	0.004	NORTHWESTERN HIGH SCHOOL	DRINK FOUNTAIN CAFE WEST	02-Oct-15
Lead	0.010	NORTHWESTERN HIGH SCHOOL	DRINK FTN LIBRARY SOUTH	02-Oct-15

Michigan Department Environmental Quality

From: Pallone, Maggie (DEQ)
Sent: Thursday, October 08, 2015 3:10 PM
To: Sitko, Anthony M;Tawwab, Bilal
Cc: Wurfel, Brad (DEQ);Busch, Stephen (DEQ);Henry, James;Krisztian, George (DEQ);Wyant, Dan (DEQ)
Subject: MDEQ Water Testing for Flint Community Schools
Attachments: Flint Community Schools Testing Results Initial Screen.pdf

Mr. Tawwab and Mr. Sitko,
Attached are the initial sampling results from 13 schools that were tested last week. I apologize that we didn't get these to you earlier today. George Krisztian from our office has been named the Flint Water Action Coordinator and will be reaching out tomorrow to discuss next steps for the lead exposure testing. This will involve inspecting all of the plumbing in each of the schools and drawing samples from each of the faucets.

If you have any questions, George is cc'd on this email.

Thank you,

Maggie Pallone

Maggie Pallone
Deputy Director
Policy and Legislative Affairs
Department of Environmental Quality
PPI (cell)
PalloneM@michigan.gov

Flint Community Schools Testing Results - Initial Screen October 2, 2015

ANALYTE	RESULT (mg/L)	Address	Sample Description	Collection Date
Lead	0.004	1040 N SAGINAW ST	3RD FLOOR CAFETERIA	02-Oct-15
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Lead	0.003	1101 W VERNON DR PIERCE ELEMENTARY	None Provided	02-Oct-15
Lead	0.008	1101 W VERNON DR PIERCE ELEMENTARY	DRINKING FOUNTAIN MAIN HALL	02-Oct-15
Lead	0.009	1420 W TWELFTH	DRINKING FOUNTAIN	02-Oct-15
Lead	0.015	1420 W TWELFTH	DRINKING FTN BY RM 3	02-Oct-15
Lead	0.007	1420 W TWELFTH ST	ACROSS FROM CAFETERIA DRINKING FTN	02-Oct-15
Lead	0.005	1518 UNIVERISTY AVE	GYM/POOL DRINKING FTN	02-Oct-15
Lead	0.001	1518 UNIVERSITY AVE	3RD FLOOR FOUNTAIN	02-Oct-15
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Lead	0.002	923 E KEARSLEY	1ST FL DRINK FTN	02-Oct-15
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Lead	0.003	923 E KEASLEY ADMIN	BASEMENT ADMIN	02-Oct-15
Lead	0.002	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN ROOM 12	02-Oct-15
Lead	0.005	BROWNELL S T E M ACADEMY	DRINK FTN GYM BATHRM	02-Oct-15
Lead	0.031	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN RM 6 & 7	02-Oct-15
Lead	0.003	EISENHOWER ELEMENTARY	FOUNTAIN GYM	02-Oct-15
Lead	0.016	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 209	02-Oct-15
Lead	0.028	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 102	02-Oct-15
Lead	0.003	FREEMAN ELEMENTARY	FOUNTAIN NORTH END OF BLDG	02-Oct-15
Lead	0.008	FREEMAN ELEMENTARY	FOUNTAIN MIDDLE AT SCHOOL	02-Oct-15
Lead	0.101	FREEMAN ELEMENTARY	FOUNTAIN SO END OF BLDG	02-Oct-15
Lead	0.002	HOLMES S T E M ACADEMY	DRINK FOUNTAIN D114	02-Oct-15
Lead	Not detected	HOLMES S T E M ACADEMY	DRINK FOUNTAIN BLUE HALLWAY C109	02-Oct-15
Lead	Not detected	HOLMES S T E M ACADEMY	DRINKING FOUNTAIN OFFICE	02-Oct-15
Lead	0.002	NORTHWESTERN HIGH SCHOOL	DRINKING FTN LIBRARY NORTH	02-Oct-15
Lead	0.004	NORTHWESTERN HIGH SCHOOL	DRINK FOUNTAIN CAFE WEST	02-Oct-15
Lead	0.010	NORTHWESTERN HIGH SCHOOL	DRINK FTN LIBRARY SOUTH	02-Oct-15

Michigan Department Environmental Quality

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, October 09, 2015 2:21 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of October 5, 2015
Attachments: October 2015 Flint Water E-Clips.pdf

Due to the importance of the Flint Water issue we will be sending out two emails for the E-Clips. One will cover the Flint Water issue and the other will cover all other news articles which are just as important to the DEQ.

DEQ e-clips

Week of October 5, 2015

Articles with regard to the Flint Water Issue

9&10 News: Snyder supports switching Flint water system back to Detroit
http://www.9and10news.com/story/30218589/snyder-supports-switching-flint-water-system-back-to-detroit

Al Jazeera America: The fight for clean water in Flint, Michigan
http://america.aljazeera.com/articles/2015/10/8/the-fight-for-clean-water-in-flint-michigan.html

Detroit Free Press: Avoiding tap water has become a way of life in Flint
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/10/03/life-flint-sickening-water/73219988/

For Flint, vindication -- for Snyder, more questions
http://www.freep.com/story/opinion/editorials/2015/10/02/flint-vindication----snyder-more-questions/73207200/

Waiting for answers, action in Flint water crisis
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/10/07/flint-water-crisis/73534078/

Flint water crisis: An obscene failure of government
http://www.freep.com/story/opinion/editorials/2015/10/08/flint-water-crisis-obscene-failure-government/73578640/

Detroit News: Coalition asks EPA to intervene in Flint water issue
http://www.detroitnews.com/story/news/local/michigan/2015/10/01/flint-water-epa/73160176/

State plans Flint water filter giveaway Tuesday
http://www.detroitnews.com/story/news/politics/2015/10/05/state-flint-water-filter-giveaway/73411770/

State: Flint will reconnect to Detroit water system
http://www.detroitnews.com/story/news/local/michigan/2015/10/08/flint-health-experts-support-detroit-water-reconnection/73568654/

Flint water tests suggest statewide lead issues
http://www.detroitnews.com/story/news/politics/2015/10/08/flint-water/73623958/

MLive: Statewide donations of clean water pour in for Flint students, residents
http://www.mlive.com/news/flint/index.ssf/2015/10/post_444.html#incart_river_home

Water, water everywhere and not a drop that's safe to drink -- Andrew Heller
http://blog.mlive.com/flintjournal/aheiler/2015/10/water_water_everywhere_and_not.html#incart_river_home

Put Flint back on Detroit water ASAP, expert panel tells mayor, governor
http://www.mlive.com/news/flint/index.ssf/2015/10/some_committee_members_speak_u.html

Toxic lead levels found in water at three Flint schools
http://www.mlive.com/news/flint/index.ssf/2015/10/three_flint_schools_water_exce.html

When did state know about lead in Flint water? 6 takeaways from Snyder plan
http://www.mlive.com/news/flint/index.ssf/2015/10/seven_key_takeaways_from_gov_s.html#incart_river_home

State should pay for its own mistakes in Flint water crisis
http://www.mlive.com/opinion/flint/index.ssf/2015/10/editorial_flint_water_slap_in.html

Michigan Radio: State plan for Flint's water woes doesn't please some residents
http://michiganradio.org/post/state-plan-flints-water-woes-doesnt-please-some-residents

Sorting out accountability in Flint water issues is "relatively complex"
http://michiganradio.org/post/sorting-out-accountability-flint-water-issues-relatively-complex#stream/0

Flint never had a plan to control corrosion in old water pipes
http://michiganradio.org/post/flint-never-had-plan-control-corrosion-old-water-pipes

Gov. Snyder moves to come up with $12 million to switch Flint's water back to Detroit's supply
http://michiganradio.org/post/gov-snyder-moves-come-12-million-switch-flints-water-back-detroits-supply

The Times Herald: Flint water woes put rush on Lake Huron waterline
http://www.thetimesherald.com/story/news/local/2015/10/06/flint-water-woes-put-rush-lake-huron-waterline/73473466/?from=global&sessionKey=i5TEHSosZtesOR8Km7dDPx2FOwlmaBDK4V-18x2dg0ykfJgytbhCebRgM0lqDAx3Dx3DCWfDf247osx2BOvV4Fs5L8kgx3Dx3D-7OiaAuMyZ0DZnpDlwH5hggx3Dx3D-BSbDHxx3VpNx2BzSS4fs9Qckgx3Dx3D&autologin=Hx2BZA77c0x2BWoNqJjqcepoU5TXXdGZMGtrC49DeQw0Irsx3D

U.S. News & World Report: Michigan pledges $1M for filters, steps to fix city's water after tests show high lead levels
http://www.usnews.com/news/us/articles/2015/10/02/public-health-emergency-declared-due-to-lead-in-flint-water

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of October 5, 2015

Articles with regard to the Flint Water Issue

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http://america.aljazeera.com/articles/2015/10/8/the-fight-for-clean-water-in-flint-michigan.html

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http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/10/03/life-flint-sickening-water/73219988/

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http://www.detroitnews.com/story/news/local/michigan/2015/10/08/flint-health-experts-support-detroit-water-reconnection/73568654/

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MLive: Statewide donations of clean water pour in for Flint students, residents
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Water, water everywhere and not a drop that's safe to drink -- Andrew Heller
http://blog.mlive.com/flintjournal/aheller/2015/10/water_water_everywhere_and_not.html#incartriver_home

Put Flint back on Detroit water ASAP, expert panel tells mayor, governor
http://www.mlive.com/news/flint/index.ssf/2015/10/some_committee_members_speak_u.html

Toxic lead levels found in water at three Flint schools
http://www.mlive.com/news/flint/index.ssf/2015/10/three_flint_schools_water_exce.html

When did state know about lead in Flint water? 6 takeaways from Snyder plan
http://www.mlive.com/news/flint/index.ssf/2015/10/seven_key_takeaways_from_gov_s.html#incart_river_home

State should pay for its own mistakes in Flint water crisis
http://www.mlive.com/opinion/flint/index.ssf/2015/10/editorial_flint_water_slap_in.html

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Sorting out accountability in Flint water issues is "relatively complex"
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Gov. Snyder moves to come up with $12 million to switch Flint's water back to Detroit's supply
http://michiganradio.org/post/gov-snyder-moves-come-12-million-switch-flints-water-back-detroits-supply

The Times Herald: Flint water woes put rush on Lake Huron waterline
http://www.thetimesherald.com/story/news/local/2015/10/06/flint-water-woes-put-rush-lake-huron-waterline/73473466/?from=global&sessionKey=i5TEHSosZtesOR8Km7dDPx2FOwImaBDK4V-18x2dg0ykfJqytbhCebRgM0lqDAx3Dx3DCWfDf247osx2BOvV4Fs5L8kgx3Dx3D-7OiaAuMyZ0DZnpDlwH5hggx3Dx3D-BSbDHxx3VpNx2BzSS4fs9Ockgx3Dx3D&autologin=Hx2BZA77c0x2BWoNgJjqcepoU5TXXdGZMGtrC49DeQw0Irsx3D

U.S. News & World Report: Michigan pledges $1M for filters, steps to fix city's water after tests show high lead levels
http://www.usnews.com/news/us/articles/2015/10/02/public-health-emergency-declared-due-to-lead-in-flint-water

From: Thelen, Mary Beth (DEQ)
Sent: Sunday, October 11, 2015 10:50 AM
To: Cain, Carol L
Cc: Feuerstein, Heather (DEQ);Wurfel, Brad (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ)
Subject: RE: here ya go....

Hi Carol,

With so many emails back and forth I just want to make sure I have it correct for Thursday, October 15, as far as the schedule goes and the logistics:

Schedule:
Arrive 2:00 (will do light powder)
Taping Dan at 2:30 for Michigan Matters
Followed by the Roundtable Panel of L. Brooks Patterson and Cliff Russell who does radio show of WCHB (any others? still these names?)
Done by 3:30

Location: CBS Studio in Southfield (could you please provide an address/room/parking for visitors?)

Questions for the Dan taping are as follows:

Q; What does DEQ do?
Q: How did you get interested in environmental issues? what was your first job?
Q: How safe do you think Michigan's Great Lakes,waterways,streams are today.... And how compare to 10 or 20 year ago?
Q: Enbridge Pipeline 5--- task force came out with its report.. You were involved... What was most important part of it. How safe is that pipeline and other pipeline Enbridge has that was in news recently?
Q: There seems to be a lot of attention being given to the proposed radioactive waste depository in Canada.. Has been in works for years.. How do you feel about it possibly being built??
Q: there is an effort afoot to put ballot initiative to voters to ban horizontal fracking.. How do you see horizontal l fracking? do you see any downside to allowing it?
Q: How does Michigan compare to other states in its effort to keep waters ways safe?
Q: Flint water woes been in news.. Sounds like effort tioget it hooked back up to Detroit is in future. Is that best course of action? what, if anything, should be done for folks in Flint? Are you concerned bout lead in Michigan's water-- aside from Flint?
Anything else you want to add, please do!
-- also -- snippets for Bio box : his age,, where born, where live -- educ,,, snapshot info on DEQ...employees,,etc..

Are there any Qs for the panel that he can have in advance or are they the above questions?

Thanks Carol for clarifying.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality

Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Cain, Carol L [mailto:CLCain@cbs.com]
Sent: Friday, October 09, 2015 12:23 PM
To: Wurfel, Brad (DEQ); Feuerstein, Heather (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: RE: here ya go....

Can you send me his bio..

Q; What does DEQ do?

Q: How did you get interested in envronmental issues? what was your first job?

Q: How safe do you think Michigan's Great Lakes,waterways,streams are today.... And how compare to 10 or 20 year ago?

Q: Enbridge Pipeline 5--- task force came out with its report.. You were involved... What was most important part of it. How safe is that pipeline and other pipeline Enbridge has that was in news recently?

Q: There seems to be a lot of attention being given to the proposed radioactive waste depository in Canada.. Has been in works for years.. How do you feel about it possibly being built??

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Q: Flint water woes been in news.. Sounds like effort tioget it hooked back up to Detroit is in future. Is that best course of action? what, if anything, should be done for folks in Flint? Are you concerned bout lead in Michigan's water-- aside from Flint?

Anytting else you want to add, please do!

-- also -- snippets for Bio box : his age,, where born, where live -- educ,,, snapshot info on DEQ...employees,,etc..

Thanks!

From: Wurfel, Brad (DEQ) [WurfelB@michigan.gov]
Sent: Friday, October 09, 2015 11:04 AM
To: Cain, Carol L; Feuerstein, Heather (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: RE: had a thought.....

Hey, Carol. Sounds great! I'll look for q's as you've got them … if you need to discuss, my schedule is fairly good today, give me a call.
Here's a file shot of Dan.
b

From: Cain, Carol L [mailto:CLCain@cbs.com]
Sent: Friday, October 09, 2015 8:25 AM
To: Feuerstein, Heather (DEQ)
Cc: Thelen, Mary Beth (DEQ); Wurfel, Brad (DEQ)
Subject: RE: had a thought.....

Hey Brad,.... as Dan on show this coming Thurs,, what if I were to dovetail a QA with him to run in Freep week from this coming Sunday (same day as Mich Matters airs)..

If so, I will email you some questions today,. Could you get me email responses by say-- Tues?

Also, do you have nice high resolution pic with Dan in it might send for Freep usage? They wil need cutline info on it (when taken, where,, who in pic) and phograhper's name...

Let me know.

Also, for MM roundtable,, will forward few questions early nex week... If you have any suggestions want to include.. for either him or roundtable with Dan, Denise Ilitch and Brooks Patterson -- feel free to send along!

--Carol

From: Thelen, Mary Beth (DEQ)
Sent: Sunday, October 11, 2015 1:58 PM
To: Pallone, Maggie (DEQ);Anderson, Madhu (DEQ);Epkey, Amy (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ)
Cc: Copen, Leigh (DEQ);Wilcox, Candra (DEQ);Shaler, Karen (DEQ);Feuerstein, Heather (DEQ)
Subject: Director's 8:00 Exec Leadership Team List for Monday, October 12, 2015

Dear Executive Leadership Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Leadership Team meeting on Monday, October 12.

Executive

- City of Flint Drinking Water and Action Steps
- Director's Advisory Council for October 23 - discuss agenda
- Directors' Schedule this week – Lansing District Stakeholders (Monday) and Lansing Staff meeting, Invasive Species (Tu), Recycle By Design (Tu), Senator Casperson (Tu), US Ecology (Tu), Breakfast with Karl of FB, Carol Cain of CBS (Th), MEC Speech on Friday, more to come on drinking water issues, and other misc. meetings.
- Budget
- Pipeline Advisory Safety Council – October 28, 2:30-4:30
- ECOS STEP Meeting in Washington DC (October 21)
- Congressional Visits in DC (October 21-22)
- Mid West Environmental Compliance Conference, Chicago (October 29 and 30) – What are the final travel plans?
- Any followup from the meeting with the Governor on Recycling – September 23
- Any follwoup from the meeting with the Governor on Enbridge – September 23
- Michigan Petroleum Pipeline Task Force – Implementation of Recommendations
- Employee Survey Results – Action Plan
- Organizational Excellence
- Invasive Carp Updates
- District Visits – Lansing District on October 12
- Enforcement Policy (signed last week)

Admin (Amy Epkey)

- 2017 Budget Development
- Groundwater Fees
- Updates on Underground Storage Tank Authority
- Michigan Strategic Water Fund
- Administration Division In-Service Suggestions
- Budget

AQD

- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Wyant, Dan (DEQ)
Sent: Sunday, October 11, 2015 4:00 PM
To: Pallone, Maggie (DEQ)
Cc: Wurfel, Brad (DEQ);Krisztian, George (DEQ)
Subject: Re: Flint Water Situation

Looks spot on. I would only add two things.

One: of the $12 million, state portion is half, local portion half. $4 million picked up by the Mott Foundation.

Two: lime softing used to control Ph. Was not working.

Sent from my iPhone

On Oct 11, 2015, at 11:43 AM, Pallone, Maggie (DEQ) <PalloneM@michigan.gov> wrote:

> Do I have the answers below correct?
>
> Thanks,
> Maggie
>
> ---
>
> **From:** Matt Sowash [mailto:mattsowash@house.mi.gov]
> **Sent:** Friday, October 9, 2015 4:59 PM
> **To:** Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Howes, Sarah (DEQ) <HowesS1@michigan.gov>
> **Subject:** Flint Water Situation
>
> Hi Sarah and Maggie:
>
> My boss had some questions about the Flint water situation and I'm hoping you can get me some information or point me in the right direction.
>
> 1. Is it the water source or the infrastructure that is causing the issue of lead in the water? If it is the infrastructure, why does hooking back to the Detroit water system fix the problem?

It is both. When Flint made the decision to switch from DWSD water to the Flint River, the same treatments that were occurring to the DWSD water (phosphate to control corrosion) were not added to the Flint river water. Phosphate helps to create a lining on old lead pipes that keeps them from leaching lead into the water. Flint, and many other older communities in the State, still have lead services lines that lead from the water main to the home.
Some studies have indicated that Flint river water has a higher pH level and since it a river (as opposed to Lake Huron, the source of Detroit's water) will always be harder to treat. Rivers, in general, have more seasonal fluctuation and respond quicker to large weather events.
Switching back to Detroit's water system allows for less variables in the water treatment and will allow for a smoother transition when Flint switches to KWA water next summer. Both of those water sources will be Lake Huron water. In addition, we know the water coming from DWSD reacted well with the aging infrastructure in Flint. It will also allow for less variation and risk of contamination due to seasonal fluctuations in the river.

2. What assurances are there that hooking up to the Detroit water system will solve this problem?

Obviously nothing is 100% guaranteed. But we do know that when Detroit water was the drinking water source for Flint, our testing showed that lead lea ching was not an issue. The only real solution is replacement of the lead service lines that lead from the water main into the home. We are working with our federal agencies to ensure that Flint, and other communities, can access Drinking Water Revolving Loan funds to replace private service lines.

3. What is the $12 million dollars needed for – how are those expenses broken down?

The $12 million is the additional cost for Flint to use DSWD water over 9 months. It covers the access charge and the per gallon charge that has been negotiated between Flint and DSWD, on top of the infrastructure costs that are already built into Flint water rates.

4. Is this a statewide problem in cities with older infrastructure and older homes?

Any community that has older homes and infrastructure may have lead issues. But most communities have optimized corrosion control in place that helps to prevent the lead services from leaching lead.

Thank you for the help. Have a good weekend.

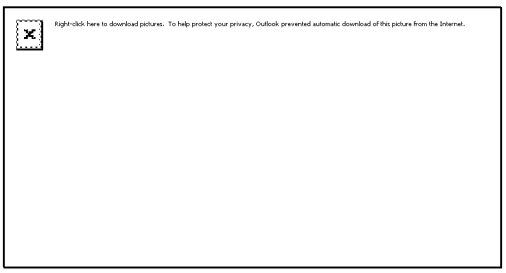
Matt Sowash

--

Matt Sowash
Legislative Director
State Representative Joseph Graves
(517) 373-1780

From: Olszewski, Rosemarie (DEQ)
Sent: Sunday, October 11, 2015 6:31 PM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Pallone, Maggie (DEQ);Howes, Sarah (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ)
Subject: State under mounting scrutiny for Flint's water crisis

http://www.detroitnews.com/story/news/local/michigan/2015/10/11/state-mounting-scrutiny-flints-water-crisis/73774024/



State under mounting scrutiny for Flint's water crisis

Lansing — Gov. Rick Snyder and his administration face mounting scrutiny for Flint's drinking water crisis, which began when a state emergency manager switched the supply source to save money and has culminated

Read more...

Rosemarie

Rosemarie Olszewski

General Office Assistant - Executive Division

Department of Environmental Quality

525 W. Allegan

Constitution Hall, 6th Floor South Tower Pillar P6

Lansing MI 48933

Ph: 517-284-6700

Fax: 517-241-7401

olszewskir@michigan.gov

From: [redacted]
Sent: Sunday, October 11, 2015 8:08 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ)

Hello there,

Perhaps you remember me from the West Bay/Nino Homes oil exploration activity that occurred in the middle of my residentially zoned neighborhood beginning in July of 2014 and taking place over much of the past year. I spent some time reading up on your most recent failure, a.k.a. "Near Hysteria", the Flint Water Crisis.

Last year when our nightmare began, we asked all of you at the DEQ very directly: "Do any of you that allowed this to happen have an oil well in your backyard?" As expected, the answer was NO. So here we are again! I just have to wonder if you Dan or you Brad have ever served your family a tasty glass of lead poisoned water? Imagine for one minute your children and their brains filled with lead, like FOREVER!

When the 2 of you are long gone and relieved of your duties, you can be assured your legacy will remain in the brains of the children of Flint. How do you live with that? You truly are a complete and total disgrace and more importantly, a failure.

I feel confident this Flint Water Crisis will be your undoing. You can pretty much forget about moving up the ladder to God knows where you hoped to go. A poisoned water supply on your watch speaks for itself. Clean, safe water is the most basic of human necessities and one would think it should be the foundation of what we commonly refer to as Pure Michigan.

My heart breaks for the children and the concerned parents of the city of Flint. They deserved better from you.

Jennifer Panos
Shelby Township, MI

From: Shaler, Karen (DEQ)
Sent: Tuesday, October 13, 2015 9:12 AM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: RE: Comment sought on Rep. Phelps Files Suit Against State of Michigan, City of Flint
Attachments: Request for Disclosure of Official Files; FW: FOIA request from Phelps - 6422-15; RE: FOIA request from Phelps - 6422-15; 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/15/15; Attached FOIA Request and $50 Check; Request for Disclosure of Official Files

Executive Division did not have any records for Rep. Phelps' FOIA request; only ODWMA did. Attached are e-mails about the handling of his FOIA request. This FOIA was assigned to EXE, ODWMA, and WRD; and Rep. Phelps was notified of that via the 1st attached e-mail of September 10. The 4th attached e-mail contains the 3 documents that ODWMA Lansing District (Jo Anne Rennaker) e-mailed on September 30 to Rep. Phelps at no charge. The last attached e-mail is the denial e-mail that Susan Vorce sent on September 28 indicating that EXE and WRD don't have any records, and I was unaware of her e-mail until October 1 when I checked the U drive folder where our FOIA office saves the PDF of FOIA requests and e-mails to the requesters.

Here is a link to the "DEQ FOIA Information" that's on our home page: http://www.michigan.gov/deq/0,4561,7-135--357782--,00.html

The 2nd to last link on that page is a draft of the new DEQ Policy and Procedure No. 01-006A, which is for the public to know how to make a FOIA request and how it's processed in DEQ.

Please let me know if you need anything else. Thanks.

From: Pallone, Maggie (DEQ)
Sent: Tuesday, October 13, 2015 7:38 AM
To: Shaler, Karen (DEQ)
Cc: Thelen, Mary Beth (DEQ); Wurfel, Brad (DEQ)
Subject: FW: Comment sought on Rep. Phelps Files Suit Against State of Michigan, City of Flint

Karen-
Can you help Brad and Dan on what documents were provided to Phelps? From both ODWMA and EXE?
Thanks,
Maggie

From: Wurfel, Brad (DEQ)
Sent: Monday, October 12, 2015 9:35 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Subject: Fwd: Comment sought on Rep. Phelps Files Suit Against State of Michigan, City of Flint

Need you on this. Probably will help to have copies of whatever we shared and I want to be sure I know what I know. Thanks.

b

Sent from my iPhone

Begin forwarded message:

From: "Wurfel, Sara (GOV)" <Wurfels@michigan.gov>
To: "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
Subject: FW: Comment sought on Rep. Phelps Files Suit Against State of Michigan, City of Flint

Need to make sure I understand the full background and story on this.

From: Gary Ridley [mailto:GRIDLEY@mlive.com]
Sent: Monday, October 12, 2015 1:39 PM
To: Bitely, Andrea (AG) <BitelyA@michigan.gov>; Wurfel, Sara (GOV) <Wurfels@michigan.gov>
Subject: Comment sought on Rep. Phelps Files Suit Against State of Michigan, City of Flint

Hi,
I wanted to see if the state had any comment in response to this lawsuit.

Thanks.

--
Gary Ridley | The Flint Journal-MLive Media Group | 810-280-9516 | gridley@mlive.com<mailto:gridley@mlive.com>

From: Rosemary Jones [mailto:RJones@house.mi.gov]
Sent: Monday, October 12, 2015 1:33 PM
To: Rosemary Jones
Subject: Rep. Phelps Files Suit Against State of Michigan, City of Flint

FOR IMMEDIATE RELEASE
Monday, Oct. 12, 2015

Contact: Rep. Phil Phelps
Phone: (517) 373-7515

Rep. Phelps Files Suit Against State of Michigan, City of Flint
State, city failed to release documents sought in FOIA request
LANSING — State Representative Phil Phelps (D-Flushing) announced earlier today that he is filing suit against the state of Michigan and the city of Flint to force them to release public documents he requested last month under the Freedom of Information Act (FOIA).
"It's an absolute shame that I have to file suit to force our government to comply with the law," Phelps said. "I was shocked at their response, because prior to receiving the denials, officials

from both the city and state had told me that not only did documents exist, but they would be happy to share them with me."

On Sept. 4 of this year, Phelps requested that the city and state turn over all documents and emails regarding the permit and application process that Flint's emergency manager was required to complete before the Michigan Department of Environmental Quality gave the go ahead to the city to start using the Flint River as its source of drinking water. Late last month, the state and the city both denied Phelps' request, saying that no such documents exist.

In March and April of 2014, officials from both the city and state were also quoted in several articles on Mlive.com, making comments about the permit application process for Flint to switch its source of drinking water from Detroit's system to the Flint River.

"I want to know what these officials knew about the safety and quality of the river water before the switch was made. Judging by their response and recent actions, it almost seems they knew a lot more than they are letting on to," Phelps said. "Flint residents deserve better than this, they deserve to know the truth about the decisions that were made, and if I have to fight this in court to get the truth, so be it."

###

Rosie Jones
Deputy Press Secretary
Michigan House Democrats
O: 517.373.3731
C: PPI
housedems.com

From: DEQFOIA
Sent: Thursday, September 10, 2015 11:59 AM
To: Phillip Phelps (pphelps277@yahoo.com)
Subject: Request for Disclosure of Official Files

Mr. Phil Phelps
819 Main Street, Unit A
Flushing, MI 48433

Dear Mr. Phelps:

SUBJECT: Request for Disclosure of Official Files

This notice is issued in response to your request for information under the Freedom of Information Act, 1976 PA 442, as amended (FOIA), received on September 8, 2015. You have requested the following information: "Any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint, etc." (FOIA 6422-15).

Your request will be forwarded to the **Executive Division, Office of Drinking Water and Municipal Assistance, and Water Resources Division**

Due to time constraints and limited resources, it is necessary to issue a 10-business day extension until **September 29, 2015**, as permitted under Section 5(2)(d) of the FOIA.

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
800-662-9278

The DEQ strives to continually improve its customer service to FOIA requestors. To provide input for improvements to the FOIA process, please complete this survey: https://www.surveymonkey.com/s/foiaprocess

From: Shaler, Karen (DEQ)
Sent: Tuesday, September 29, 2015 6:29 PM
To: DEQFOIA;Vorce, Susan (DEQ);Busch, Stephen (DEQ);Rennaker, Joanne (DEQ)
Cc: DEQ-RMD-FOIA;Devereaux, Tracy Jo (DEQ);Thelen, Mary Beth (DEQ);Feuerstein, Heather (DEQ)
Subject: FW: FOIA request from Phelps - 6422-15
Attachments: 6422.pdf; RE: Check; 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/15/15

FYI, Maggie Pallone previously told me that she spoke with Rep. Phelps about his attached FOIA request. He told her that he would get back with her about whether or not he wanted to cancel his request. Maggie has since contacted his office 3 additional times to follow up, but no one has contacted her. That being said, late this afternoon, Maggie said to go ahead and treat his request as a FOIA after all.

In addition, today Sylvia Renteria sent his $50 FOIA good faith deposit check to the Cashier's Office to be deposited due to the year-end closing deadline to deposit checks and is having it credited to ODWMA (see attached).

It turns out that the Executive Division does not have any of the requested records. However, ODWMA has three documents in the attached e-mail from Tracy Jo Devereaux that are responsive according to my conversation today with Steve Busch, so ODWMA will need to provide Rep. Phelps with those documents, apply the cost against the $50 check, and either have a refund issued if the total cost is less than $50 or invoice Rep. Phelps for any additional amount over $50.

Please let me know if you need anything else from me. Thanks.

Karen

From: Vorce, Susan (DEQ)
Sent: Tuesday, September 15, 2015 11:31 AM
To: Pallone, Maggie (DEQ); Copen, Leigh (DEQ); Shaler, Karen (DEQ)
Cc: Schinderle, Jack (DEQ); Edlin, Karen (DEQ)
Subject: FW: FOIA request from Phelps - 6422-15

Maggie:

The attached FOIA request has already been entered into the FOIA database.

However, I did not realize the requester was a State Representative.

Karen Shaler and JoAnne Rennaker (ODWMA-Lansing District) are working on this FOIA request.

Please contact me or Karen if you have any questions.

--Susan

Susan Vorce, FOIA Coordinator
Department of Environmental Quality

517-284-6889 or 800-662-9278
vorces@michigan.gov

6/22-15
Exec, WRD
ODWMA
LDO
due 9-29-15

10-day

FOIA Coordinator
Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957
Phone: 800-662-9278

deqfoia@michigan.gov

Dear FOIA coordinator,

This letter is a request for records under the Freedom of Information Act, MCL 15.231 et seq.

The records I am requesting are:

1. All documents the Michigan Department of Environmental Quality, or its agents, has in its possession, including correspondence, related to any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.
2. All documents the Michigan Department of Environmental Quality, or its agents, has in its possession, including correspondence, related to any communications between the Michigan Department of Environmental Quality, or its agents, and the Michigan Department of Treasury, or its agents, regarding any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.
3. All documents the Michigan Department of Environmental Quality has in its possession, including correspondence, related to any communications between the Michigan Department of Environmental Quality, or its agents, and the Office of the Governor of the State of Michigan, or its agents, regarding any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.

I am enclosing a check in the amount of $50 as a good faith deposit to cover a portion or all of the cost of these items. If the amount exceeds $50, please contact me by phone at 810-223-7034, to discuss the balance and the basis for the amounts charged beyond $50. If the amount is less than $50 please refund the balance to this office.

Sincerely,

Phil Phelps
819 Main Street
Unit A
Flushing, MI 48433

DEQFOIA

From: Phillip Phelps <pphelps277@yahoo.com>
Sent: Friday, September 04, 2015 4:53 PM
To: DEQFOIA
Subject: FOIA Request
Attachments: Phelps Mich Dept EQ FOIA Request Sept 4 2015.doc

Hello,
Please find the attached FOIA request. If you have any questions please feel free to contact me through the contact information provided in the attached FOIA request.

Thanks,
Phil

From: Renteria, Sylvia (DEQ)
Sent: Tuesday, September 29, 2015 1:51 PM
To: Shaler, Karen (DEQ)
Subject: RE: Check

The check is being credited to ODWMA.

Sylvia Renteria
Financial Specialist
Michigan Department of Environmental Quality
6th Floor Constitution Hall
T: 517-284-5006
F: 517-241-7428

From: Shaler, Karen (DEQ)
Sent: Tuesday, September 29, 2015 1:47 PM
To: Renteria, Sylvia (DEQ)
Subject: RE: Check

OK. Is this $50 being credited to Exec. Div. or ODWMA for this FOIA?

From: Renteria, Sylvia (DEQ)
Sent: Tuesday, September 29, 2015 8:27 AM
To: Shaler, Karen (DEQ)
Subject: Check

Hi Karen!

I am going to send the check to be deposited. I don't want to close the year with an outstanding check.

Thanks,
Sylvia

Sylvia Renteria
Financial Specialist
Michigan Department of Environmental Quality
6th Floor Constitution Hall
T: 517-284-5006
F: 517-241-7428

From: Devereaux, Tracy Jo (DEQ)
Sent: Thursday, September 24, 2015 5:01 PM
To: Shaler, Karen (DEQ);DEQFOIA
Cc: DEQ-RMD-FOIA
Subject: 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/15/15
Attachments: 02310_Flint_BaselineForm.pdf; ATT00001.htm; BaselineLetterSW - 03 14 07.pdf; ATT00002.htm; BaselineQA - 03 12 07.pdf; ATT00003.htm

Attached are all the documents ODWMA has pertaining to the subject line FOIA request. Our understanding is that the documents are to be reviewed in Executive Division before going anywhere else.

From: Busch, Stephen (DEQ)
Sent: Thursday, September 24, 2015 4:58 PM
To: Devereaux, Tracy Jo (DEQ)
Subject: Fwd: Flint Baseline Info

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

> **From:** "Philip, Kris (DEQ)" <PHILIPK@michigan.gov>
> **Date:** September 23, 2015 at 10:24:15 AM EDT
> **To:** "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
> **Cc:** "Rennaker, Joanne (DEQ)" <RENNAKERJ@michigan.gov>
> **Subject: Flint Baseline Info**

COMPLETE AND RETURN THIS FORM TO THE MDEQ BY APRIL 1, 2007.

Listed below is the sum of the rated capacity of all low service or intake pumps the MDEQ has on record capable of withdrawing water from a surface water source as of May 29, 2006. If the capacity is correct, check the box provided. If the total capacity is incorrect, put the correct capacity in the blank to the right of the listed capacity. Finally, complete the signature box and return the form to the MDEQ. Thank you for your cooperation.

WSSN: 02310 FLINT

Check this box if the total capacity listed below is correct.
If the data is incorrect, leave this box blank and make the necessary correction below. ☑

	Capacity on Record	Capacity Correction
Total low service or intake pump capacity:	90 MGD	

Signature of water supply representative:

BRENT F. WRIGHT — Printed Name

OPS & TECH SUPERVISOR — Title

Signature

3-22-07 — Date

Please FAX or mail your completed form to:

MDEQ, Water Bureau
Community Drinking Water Unit
PO Box 30273
Lansing, MI 48909-7773

FAX: (517) 241 - 1328

This Document is a Non-Responsive Attachment.

This Document is a Non-Responsive Attachment.

From: Shaler, Karen (DEQ)
Sent: Wednesday, September 30, 2015 11:09 AM
To: Rennaker, Joanne (DEQ);DEQFOIA;Vorce, Susan (DEQ);Busch, Stephen (DEQ)
Cc: Devereaux, Tracy Jo (DEQ);Feuerstein, Heather (DEQ);Renteria, Sylvia (DEQ)
Subject: RE: FOIA request from Phelps - 6422-15

As we discussed, yes, please e-mail the three PDF documents to him at pphelps277@yahoo.com as I understand that ODWMA will provide the documents at no charge. FYI, I also spoke with Lori Carter of the Accounting Service Center, who told me the $50 FOIA deposit check has not yet been processed so once they receive it, she will have it returned to me to be voided and returned to Rep. Phelps. Thanks.

From: Rennaker, Joanne (DEQ)
Sent: Wednesday, September 30, 2015 10:26 AM
To: Shaler, Karen (DEQ); DEQFOIA; Vorce, Susan (DEQ); Busch, Stephen (DEQ)
Cc: Devereaux, Tracy Jo (DEQ)
Subject: RE: FOIA request from Phelps - 6422-15

Good Morning Karen,

Do you want me to e-mail the documents to Representative Phelps?

Jo Anne Rennaker
Secretary
Office of Waste Management and Radiological Protection
Office of Drinking Water and Municipal Assistance
517-284-6643

From: Shaler, Karen (DEQ)
Sent: Tuesday, September 29, 2015 6:29 PM
To: DEQFOIA; Vorce, Susan (DEQ); Busch, Stephen (DEQ); Rennaker, Joanne (DEQ)
Cc: DEQ-RMD-FOIA; Devereaux, Tracy Jo (DEQ); Thelen, Mary Beth (DEQ); Feuerstein, Heather (DEQ)
Subject: FW: FOIA request from Phelps - 6422-15

FYI, Maggie Pallone previously told me that she spoke with Rep. Phelps about his attached FOIA request. He told her that he would get back with her about whether or not he wanted to cancel his request. Maggie has since contacted his office 3 additional times to follow up, but no one has contacted her. That being said, late this afternoon, Maggie said to go ahead and treat his request as a FOIA after all.

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according to my conversation today with Steve Busch, so ODWMA will need to provide Rep. Phelps with those documents, apply the cost against the $50 check, and either have a refund issued if the total cost is less than $50 or invoice Rep. Phelps for any additional amount over $50.

Please let me know if you need anything else from me. Thanks.

Karen

From: Vorce, Susan (DEQ)
Sent: Tuesday, September 15, 2015 11:31 AM
To: Pallone, Maggie (DEQ); Copen, Leigh (DEQ); Shaler, Karen (DEQ)
Cc: Schinderle, Jack (DEQ); Edlin, Karen (DEQ)
Subject: FW: FOIA request from Phelps - 6422-15

Maggie:

The attached FOIA request has already been entered into the FOIA database.

However, I did not realize the requester was a State Representative.

Karen Shaler and JoAnne Rennaker (ODWMA-Lansing District) are working on this FOIA request.

Please contact me or Karen if you have any questions.

--Susan

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
517-284-6889 or 800-662-9278
vorces@michigan.gov

From: Devereaux, Tracy Jo (DEQ)
Sent: Thursday, September 24, 2015 5:01 PM
To: Shaler, Karen (DEQ);DEQFOIA
Cc: DEQ-RMD-FOIA
Subject: 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/15/15
Attachments: 02310_Flint_BaselineForm.pdf; ATT00001.htm; BaselineLetterSW - 03 14 07.pdf; ATT00002.htm; BaselineQA - 03 12 07.pdf; ATT00003.htm

Attached are all the documents ODWMA has pertaining to the subject line FOIA request. Our understanding is that the documents are to be reviewed in Executive Division before going anywhere else.

From: Busch, Stephen (DEQ)
Sent: Thursday, September 24, 2015 4:58 PM
To: Devereaux, Tracy Jo (DEQ)
Subject: Fwd: Flint Baseline Info

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

> **From:** "Philip, Kris (DEQ)" <PHILIPK@michigan.gov>
> **Date:** September 23, 2015 at 10:24:15 AM EDT
> **To:** "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
> **Cc:** "Rennaker, Joanne (DEQ)" <RENNAKERJ@michigan.gov>
> **Subject: Flint Baseline Info**

COMPLETE AND RETURN THIS FORM TO THE MDEQ BY APRIL 1, 2007.

Listed below is the sum of the rated capacity of all low service or intake pumps the MDEQ has on record capable of withdrawing water from a surface water source as of May 29, 2006. If the capacity is correct, check the box provided. If the total capacity is incorrect, put the correct capacity in the blank to the right of the listed capacity. Finally, complete the signature box and return the form to the MDEQ. Thank you for your cooperation.

WSSN: 02310 FLINT

Check this box if the total capacity listed below is correct.
If the data is incorrect, leave this box blank and make the necessary correction below. ☑

	Capacity on Record	Capacity Correction
Total low service or intake pump capacity:	90 MGD	

Signature of water supply representative:

BRENT F. WRIGHT — Printed Name

OPS & TECH SUPERVISOR — Title

Signature

3-22-07 — Date

Please FAX or mail your completed form to:

MDEQ, Water Bureau
Community Drinking Water Unit
PO Box 30273
Lansing, MI 48909-7773

FAX: (517) 241 - 1328

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

March 13, 2007

Dear Water Supply Professional:

SUBJECT: Confirmation of "Baseline Capacity" for Surface Water Sources
RESPONSE REQUIRED BY APRIL 1, 2007

This correspondence has been sent to confirm the "baseline capacity" of your surface water source(s). Baseline capacity is a critical component of new laws regulating water withdrawals passed by the Michigan legislature in February 2006. The enclosed "Question and Answer" (Q&A) document further explains this new legislation, its impact on you, and why responding to this letter is to your advantage.

To assign a baseline capacity for community water supplies, the MDEQ must establish the design withdrawal capacity as of May 29, 2006. For surface water sources, the design withdrawal capacity is the sum or total capacity of all pumps capable of withdrawing water from a surface water source. This capacity is the sum of the rated or design capacity of your low service or intake pumps without regard to hydraulic limitations or pump inefficiencies.

Enclosed please find a report on the sum or total rated capacity of your low service or intake pumps currently on record at the MDEQ. Please review this capacity, indicate your agreement or provide necessary corrections, and **return the signed form to the MDEQ by April 1, 2007**. A single response is all that is necessary, so you may wish to consult with your water system staff before returning your reply.

There is no scenario under the new legislation where confirming your baseline capacity will not be to your advantage. In fact, failure to do so may result in the MDEQ using annual pumpage data instead of available withdrawal capacity to determine your baseline. This default approach will result in a lower baseline capacity being established for your system.

In closing, the MDEQ wants to ensure the low service or intake pump capacity data it has on record is accurate and appropriate for establishing your baseline capacity from surface water source(s). If you have specific questions about the capacity listed on the enclosed report, please contact your district engineer. If you have questions regarding the new water withdrawal legislation, please read the enclosed Q&A document where you will find additional resources and contact information. Thank you for your cooperation.

Sincerely,

James K. Cleland, P.E., Chief
Lansing Operations Division
Water Bureau

Enclosures

cc: Operator in Charge

Questions and Answers Regarding New Water Withdrawal Legislation & Baseline Capacity

What is the purpose of the new water withdrawal legislation and why do we need to establish baseline capacity?

The new laws governing large quantity water withdrawals expanded upon water use and reporting requirements for large quantity water users to further assist in management of Michigan's water resources. The laws amended Parts 327 and 328 of the Natural Resources and Environmental Protection Act, and the Safe Drinking Water Act. The amendments redefined the requirements for water use registration and reporting, established environmental standards for assessment of new or increased large quantity water withdrawals, and set in place permit requirements for new large quantity water withdrawals of over 2 million gallons per day for ground water or inland surface water sources and 5 million gallons per day for surface water sources drawing from the Great Lakes or connecting waters.

What is a Large Quantity Withdrawal?

A large quantity withdrawal is defined as 1 or more cumulative total withdrawals of over 100,000 gallons per day (gpd) as an average in any 30-day period supplying a common distribution system, an amount approximately equal to new or additional capacity of 70 gallons per minute (gpm).

What is Baseline Capacity?

Baseline capacity is defined as the withdrawal capacity reported to the MDEQ by the person making a large quantity water withdrawal in the April 1, 2007 annual report of water use. For public water supplies the baseline capacity is the total designed withdrawal capacity as approved by the MDEQ under the Michigan Safe Drinking Water Act. For groundwater systems, the approved withdrawal capacity of your well(s) is the rated capacity of the well pump(s), not the capacity at which the pump(s) may be operating due to well inefficiencies. This capacity may include standby wells equipped with pumps that are maintained for emergency use. For surface water systems, the approved withdrawal capacity is the rated capacities of low service or intake pumps regardless of hydraulic limitations or pump inefficiencies. Only pumping equipment in place and operational within 90 days of the effective date of the legislation, which was February 28, 2006, can be included in the baseline capacity. If the above referenced capacity information is not reported and is otherwise unavailable, baseline capacity defaults to the maximum reported water use reported to the MDEQ for the years 2002 to 2005.

Why is establishing a baseline capacity important to you?

Under the new legislation, all new or increased "large quantity withdrawals" will be subject to evaluation under the new environmental standards. By legislative mandate, a new or increased large quantity withdrawal references a system's baseline capacity, or the existing capacity of the large quantity water user as a point of reference. All existing large quantity withdrawals that can be documented by the April 1, 2007 deadline for reporting are "grandfathered."

(continued on reverse)

How might an inaccurate or no baseline capacity affect your public water supply?
The answer to this question is best exemplified by citing a hypothetical example. Suppose a water supply system (not necessarily a public water supply) is operating with an average water use of 1.2 million gallons per day (MGD) and a peak water use reported to the department in 2004 of 1.6 MGD. However, the sum of capacities for the system's well pumps is 1800 gpm, or 2.6 MGD. Unfortunately, the system fails to notify the MDEQ of their existing well pump capacity. Under the law, 1.6 MGD becomes the grandfathered baseline capacity instead of 2.6 MGD.

Subsequently, the system increases their water use and later reports a water use to the MDEQ of 1.8 MGD, or a 200,000 gpd increase. The system is now subject to application of the new environmental standards adopted in passage of the legislation. Had they reported their baseline capacity, an increase in use of up to 1.0 MGD would have been exempt from application of the new environmental standards.

To give another example, a system using surface water has a peak daily demand reported on June 30, 2004 of 22 MGD. At the water treatment plant, there are 4 low service pumps that may be used to withdraw water from their source. Two of the pumps are rated at 10 MGD. The other 2 pumps have variable frequency motors. One of these pumps can produce up to 10 MGD; the other up to 5 MGD. If the system fails to notify the MDEQ that the total capacity of their low service pumps is 35 MGD, their grandfathered baseline capacity will become 22 MGD. As in the previous example, this system is now subject to the application of the new environmental standards should their water use increase more than 100,000 gpd beyond the 2004 peak demand.

Where can I obtain additional information on the new water use legislation?
Additional information about the new water use and water withdrawal legislation is available on the MDEQ website at http://www.michigan.gov/deqwateruse.
Specific questions or comments regarding the new legislation should be directed to:
Brant Fisher at 517-241-1415 or fisherb@michigan.gov or
Ronda Page at 517-241-1380 or pagerc@michigan.gov .

Questions specific to your water supply well capacities should be directed to your MDEQ district office.

From: Shaler, Karen (DEQ)
Sent: Thursday, October 01, 2015 11:18 AM
To: pphelps277@yahoo.com
Cc: Pallone, Maggie (DEQ);Renteria, Sylvia (DEQ);Feuerstein, Heather (DEQ);Rennaker, Joanne (DEQ)
Subject: Attached FOIA Request and $50 Check
Attachments: 6422.pdf

Dear Representative Phelps:

I understand that our Office of Drinking Water and Municipal Assistance forwarded to you some documents at no charge in response to your attached FOIA request. Since no payment was needed, I wanted to let you know that I have voided your check #168 for $50 and will be returning it to you via U.S. Mail.

Thank you.

Karen Shaler, Management Assistant to
Chief Deputy Director Jim Sygo
FOIA Liaison, Executive Division
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6709
Fax: 517-241-7401
shalerk@michigan.gov

6/22-15
Exec, WRD
ODWMA
LDO
due 9-29-15

10-day

FOIA Coordinator
Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957
Phone: 800-662-9278

deqfoia@michigan.gov

Dear FOIA coordinator,

This letter is a request for records under the Freedom of Information Act, MCL 15.231 et seq.

The records I am requesting are:

1. All documents the Michigan Department of Environmental Quality, or its agents, has in its possession, including correspondence, related to any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.
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Sincerely,

Phil Phelps
819 Main Street
Unit A
Flushing, MI 48433

DEQFOIA

From: Phillip Phelps <pphelps277@yahoo.com>
Sent: Friday, September 04, 2015 4:53 PM
To: DEQFOIA
Subject: FOIA Request
Attachments: Phelps Mich Dept EQ FOIA Request Sept 4 2015.doc

Hello,
Please find the attached FOIA request. If you have any questions please feel free to contact me through the contact information provided in the attached FOIA request.

Thanks,
Phil

From: DEQFOIA
Sent: Monday, September 28, 2015 11:59 AM
To: Phillip Phelps (pphelps277@yahoo.com)
Subject: Request for Disclosure of Official Files

Mr. Phil Phelps
819 Main Street, Unit A
Flushing, MI 48433

Dear Mr. Phelps:

SUBJECT: Request for Disclosure of Official Files – **Executive Division and Water Resources Division**

This notice is issued in response to your request for information under the Freedom of Information Act, 1976 PA 442, as amended (FOIA), received on September 8, 2015. You have requested the following information: "Any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint, etc." (FOIA 6422-15).

The purpose of the FOIA is to provide the public with access to existing, nonexempt public records of public bodies. Your request to examine or receive a copy of the documents described above is denied.

To the best of this public body's knowledge, information, and belief, the public record does not exist under the name given by the requester, or by another name reasonably known to the public body.

Under section 10 of the FOIA, the DEQ is obligated to inform you of the following:

1) Appeal this decision in writing to the Director of the Department of Environmental Quality, P.O. Box 30473, Lansing, Michigan 48909-7973. The writing must specifically state the word "appeal," and identify the basis for which the disclosure determination should be reversed. The Director of the DEQ, or his/her delegated designee, must respond to the appeal within 10 days of its receipt. Under unusual circumstances, the time for response to the appeal may be extended by 10 business days.

2) Commence a civil action in circuit court within 180 days after the date of the final determination to deny the request. If you prevail in such an action, the court is to award reasonable attorney fees, costs, and disbursements, and possible damages.

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
800-662-9278
deqfoia@michigan.gov

The DEQ strives to continually improve its customer service to FOIA requesters. To provide input for improvements to the FOIA process, please complete this survey: https://www.surveymonkey.com/s/deq_foia

From: Saxton, Thomas (Treasury)
Sent: Tuesday, October 13, 2015 11:51 AM
To: Wyant, Dan (DEQ);Muchmore, Dennis (GOV)
Cc: Wurfel, Sara (GOV);Wurfel, Brad (DEQ);Stanton, Terry A. (Treasury);Workman, Wayne (TREASURY)
Subject: FW: Flint Water Issue: Memorandum RTAB1.PDF
Attachments: Memorandum RTAB1.PDF

Importance: High

Just fyi… the reconnect to DWSD is hitting the RTAB agenda tomorrow. We are not foreseeing any problems in terms of its approval.

From: Workman, Wayne (TREASURY)
Sent: Tuesday, October 13, 2015 10:44 AM
To: Saxton, Thomas (Treasury) <SaxtonT@michigan.gov>
Cc: Stanton, Terry A. (Treasury) <StantonT@michigan.gov>
Subject: FW: Flint Water Issue: Memorandum RTAB1.PDF
Importance: High

Wayne L. Workman
Deputy State Treasurer
Michigan Department of Treasury

From: Cline, Richard (Treasury)
Sent: Tuesday, October 13, 2015 10:40 AM
To: Workman, Wayne (TREASURY) <WorkmanW@michigan.gov>; Byrne, Randall (Treasury) <ByrneR1@michigan.gov>; Schafer, Suzanne K. (Treasury) <SchaferS7@michigan.gov>; Koryzno, Edward (Treasury) <KoryznoE@michigan.gov>
Subject: Flint Water Issue: Memorandum RTAB1.PDF
Importance: High

FYI.

I just received this from Natasha regarding the City's request to reconnect to DWSD.

The City is asking that the RTAB consider this tomorrow. I am in the process of sending this to the Board.

It appears that the City is planning on taking the $2M from Fund Balance.

Eric Cline | Department Manager | State of Michigan
Michigan Department of Treasury | Local Government Financial Services Division | Fiscal Responsibility Section
430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
Lansing Office (517) 335-2078 | Cell Phone PPI | Traverse City Office (231) 922-5228
E-mail clinerl@michigan.gov

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From: Natasha Henderson [mailto:natashalhenderson@gmail.com]
Sent: Tuesday, October 13, 2015 10:16 AM
To: Dempkowski, Angela (Treasury) <DempkowskiA@michigan.gov>; Cline, Richard (Treasury) <cliner1@michigan.gov>
Subject: Memorandum RTAB1.PDF

Hello Eric,

Per your request, I have attached a request to add two high priority items to the RTAB agenda.

Thanks,

Natasha L. Henderson

CITY OF FLINT

Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Memorandum
To: Receivership Transition Advisory Board
From: Natasha L. Henderson, City Administrator
Date: Tuesday, October 13th
Re: Emergency Additions to the Agenda

Members of the Receivership Transition Advisory Board:

This memorandum respectfully requests the inclusion of two urgent items on the agenda for the October 14 Receivership Transition Advisory Board Meeting.

As you may be aware, the Genesee County Health Department has issued a public health advisory in regard to the high amount of lead contamination in City water in response to the findings of physicians at Hurley Hospital. This was followed by a similar advisory declared by the City.

Seeking to address this emergency, I requested that the City explore the possibility of ceasing the use of the Flint River as the City's water source and to reconnect to the Detroit Water and Sewerage Department (DWSD) until the KWA pipeline can be completed in 2016. This request was followed by a recommendation by the Mayor's Technical Advisory Committee to reconnect to DWSD to improve the City's water quality, thereby safeguarding public health. On October 8, 2015, the Governor pledged to provide financial assistance to Flint for the reconnection, in the amount of six million dollars. The Mott Foundation graciously offered to provide an additional four million. Combined with two million dollars provided by the City, a total amount of $12 million can be utilized to reconnect the City to DWSD for a nine month period.

In the interests of the public health and welfare, I request that the first item added to the agenda be a resolution (#150872) making available two million dollars from general fund balance to reconnect to DWSD. The second item requested to be added to the agenda is a resolution (#150875) granting the City Administrator the Authority to enter into a contract with DWSD. These items have been attached for your review.

I apologize for the sudden request for changes to the agenda, however the City is facing a critical emergency requiring immediate attention. The Administration has had to react with reflexive speed and remain adaptable to try to mitigate the serious consequences already affecting the residents of this community. I ask that you please consider my request to add and approve these items so that we may address this emergency in a timely and responsive manner.

Respectfully,

Natasha L. Henderson, City Administrator

RESOLUTION NO.: 150872

PRESENTED: _____

ADOPTED: _____

RESOLUTION AUTHORIZING A BUDGET AMENDMENT TO INCREASE THE WATER AND SEWER BUDGET BY $12,000,000.00 AND TO ALLOW FOR EXPENDITURES FROM THOSE FUNDS TO FACILITATE THE SWITCH BACK TO THE DWSD WATER SUPPLY

BY THE CITY ADMINISTRATOR:

Due to the serious health threat facing the residents of the City of Flint, the Administration has been diligently working toward a feasible and speedy resolution to the City's water crisis; and

Through the commitment of $6 million from the State of Michigan and $4 million from the C.S. Mott Foundation, a total of $10 million in contributions have been pledged to assist the City with the cost of purchasing water from the Detroit Water and Sewerage Department and its successor, the Great Lakes Water Authority, until the City is able to receive water from the Karegnondi Water Authority (KWA).

The City Administrator and the Mayor have agreed to the acceptance of these funds. At this time, the KWA reports that construction is on schedule to be completed by June 30, 2016. The City estimates that the total cost to purchase water through DWSD will be $12 million for 9 months. The balance of $2 million not covered by the generous pledges of State and Local resources is the responsibility of the City.

A budget amendment is necessary to reflect both an increase in revenues for the receipt of $10 million in assistance and $2 million of budgeted Use of Fund Balance and an increase in expenditures of $12 million for the purchase of DWSD water supply.

IT IS RESOLVED that the Finance Department is authorized to process a budget amendment to the appropriate Water and Sewer funds to facilitate the switch back to the Detroit water system as soon as practicable. Specific revenue and expenditure line items will be provided by the Chief Financial Officer.

APPROVED AS TO FORM:

for

Peter M. Bade, City Attorney

FOR THE CITY OF FLINT:

Natasha L. Henderson, City Administrator

APPROVED AS TO FINANCE:

Jody N. Lundquist, Chief Financial Officer

APPROVED BY THE FLINT CITY COUNCIL:

_____

S:\P. Bade\City Administrator\Resolutions\Switch Back DWSD 10.07.15.docx

RESOLUTION STAFF REVIEW

DATE: October 12, 2015

Agenda Item Title: **RESOLUTION AUTHORIZING A BUDGET AMENDMENT TO INCREASE THE WATER AND SEWER BUDGET BY $12,000,000.00 AND TO ALLOW FOR EXPENDITURES FROM THOSE FUNDS TO FACILITATE THE SWITCH BACK TO THE DWSD WATER SUPPLY**

Prepared By: Jody N. Lundquist

Background/Summary of Proposed Action: As a result of the ongoing concern for the health and wellbeing of the City of Flint's residents, City Administration has worked to negotiate the reconnection to Detroit Water and Sewerage Department (DWSD) supply until the Karegnondi Water Authority (KWA) pipeline construction is complete. Per KWA representatives, KWA construction remains on schedule with a final completion date of June 30, 2016.

Financial Implications: The purchase of water from DWSD is estimated to cost approximately $12 million through June 30, 2016 based on average usage of 16 million gallons per day. $10 million in support has been pledged from State and Local sources. The City proposes a budget amendment for Use of Fund Balance in the Water Fund in the amount of $2 million to cover the cost of purchasing DWSD water through fiscal year end.

While the City continues to grapple with the financial impact of the Preliminary Injunction Order issued on August 7, 2015, in the short term, both the shortfall in revenues as a result of the Order and the additional cost of responding to the health and safety of the City's water supply are exactly the type of events for which the City's Fund Balance Reserve policies were designed. To the extent that the City Water Fund Reserve is projected to fall below the required balance of 25% of current year operating expenses and one year's annual debt service, the City will propose a reserve replenishment plan to accompany adoption of the next fiscal year's operating budget.

Budgeted Expenditure? Yes No **Please explain if no:** Prior to the emergent concerns regarding the safety of Flint's water supply, the FY2016 budget reflects the cost of supplying Flint River water.

Account No.: n/a

Pre-encumbered? Yes No **Requisition #** n/a

Other Implications (i.e., collective bargaining): None.

Staff Recommendation: **Approve FY2016 $2 million Use of Fund Balance budget amendment**

Staff Person: Jody N Lundquist Approval: Gerald D. Ambrose

150875

RESOLUTION NO.:_____

PRESENTED:_____

ADOPTED:_____

RESOLUTION AUTHORIZING THE CITY ADMINISTRATOR TO TAKE NECESSARY ACTION TO CONVERT TO THE DETROIT WATER SYSTEM

BY THE CITY ADMINISTRATOR:

In order to promote the health, safety and welfare of this community, it is in the best interests of the City of Flint for the Detroit Water and Sewer Department (DWSD) to supply the City with treated water pending completion of the Karegnondi Water Authority; and

In order for DWSD to supply the City with water, it will be necessary to utilize pipe owned by the Genesee County Drain Commission (GCDC); and

The City, DWSD and GCDC are actively negotiating the terms of the necessary agreements to ensure this transition occurs as soon as possible; and

IT IS RESOLVED that the City Administrator is hereby authorized to enter into agreements with DWSD and GCDC for conversion to the Detroit Water System.

APPROVED AS TO FORM:

Peter M. Bade, City Attorney

Jody N. Lundquist, Chief Financial Officer

FOR THE CITY OF FLINT:

Natasha L. Henderson, City Administrator

APPROVED BY CITY COUNCIL:

_____

S:\P. Bade\City Administrator\Resolutions\CA DWSD Authority Reso 10.12.15(pmb rev).docx

From: Olszewski, Rosemarie (DEQ)
Sent: Tuesday, October 20, 2015 4:57 PM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Krisztian, George (DEQ)
Subject: Michigan DEQ 'completely failed' Flint residents, says Ananich, call for water investigation

http://www.mlive.com/lansing-news/index.ssf/2015/10/michigan_deq_failed_flint_resi.html

Hard copy to Mary Beth for Director.

Rosemarie
Rosemarie Olszewski
General Office Assistant - Executive Division
Michigan Department of Environmental Quality
Constitution Hall, 525 W. Allegan St.
6th Floor South Tower, Pillar P6
Telephone: 517-284-6700
Fax: 517-241-7401

From: Wyant, Dan (DEQ)
Sent: Wednesday, October 21, 2015 12:50 PM
To: Mcbride, Bill (GOV);Brown, Eric (GOV);Baird, Richard (GOV);Muchmore, Dennis (GOV);Wurfel, Brad (DEQ);Wurfel, Sara (GOV);Pallone, Maggie (DEQ);Anderson, Madhu (DEQ);Agen, Jarrod (GOV)
Subject: Fwd: Letter Requesting EPA Review of Flint, MI Water
Attachments: 2015.10.21 EPA Review Request FINAL.PDF; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Date: October 21, 2015 at 12:42:53 PM EDT
To: "hedman.susan@epa.gov" <hedman.susan@epa.gov>, "mccarthy.gina@epa.gov" <mccarthy.gina@epa.gov>
Cc: "Jordan.Dickinson@mail.house.gov" <Jordan.Dickinson@mail.house.gov>, "mayor@cityofflint.com" <mayor@cityofflint.com>, "HCroft@cityofflint.com" <HCroft@cityofflint.com>, "poy.thomas@epa.gov" <poy.thomas@epa.gov>, "Schock.michael@epa.gov" <Schock.michael@epa.gov>, "Lytle.darren@epa.gov" <Lytle.darren@epa.gov>, "fortin.denise@epa.gov" <fortin.denise@epa.gov>, "WyantD@michigan.gov" <WyantD@michigan.gov>, "aaron_suntag@stabenow.senate.gov" <aaron_suntag@stabenow.senate.gov>, "Bentley_Johnson@peters.senate.gov" <Bentley_Johnson@peters.senate.gov>, "Davis.CatherineM@epa.gov" <Davis.CatherineM@epa.gov>, "reppheips@house.mi.gov" <reppheips@house.mi.gov>, "SheldonNeeley@house.mi.gov" <SheldonNeeley@house.mi.gov>, "snyder[PPI]
Subject: Letter Requesting EPA Review of Flint, MI Water

Administrator McCarthy and Regional Director Hedman,

Please see the attached letter regarding a request for an EPA review of Flint, Michigan's water treatment.

Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.

Sincerely,

The Office of State Senator Jim Ananich
Michigan Senate Minority Leader
District 27

SENATE MINORITY LEADER
JIM ANANICH

517.373.0412
senjananich@senate.michigan.gov
senatedems.com/ananich

/jimananich @jimananich

October 21, 2015

Gina McCarthy
Administrator
United States Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 6106A
Washington, DC 20460

Susan Hedman
Regional Administrator
United States Environmental Protection Agency Region 5
Ralph Metcalfe Federal Building
77 West Jackson Boulevard
Chicago, IL 60604

Re: EPA Review Needed on Flint, Michigan Water Treatment

Administrator McCarthy and Regional Director Hedman,

Today Congressman Dan Kildee requested that the United States Environmental Protection Agency conduct an investigation into the water system in Flint, Michigan. I agree that such an investigation is vital to ensuring that the people responsible for Flint's dangerous water quality are held accountable. Similar to Congressman Kildee's request, I am requesting the EPA conduct a review of the Michigan Department of Environmental Quality's (MDEQ) oversight of water treatment in Flint as provided for in the Lead and Copper Rule, 40 CFR Sec. 141.80.

After decades of relying on water from the Detroit Water and Sewerage Department (DWSD), Flint began treating its own water from the Flint River in April 2014 at the behest of state-appointed Emergency Managers. DWSD had used — and continues to use — anti-corrosion treatments in its water to prevent lead leaching from an aging infrastructure into residents' drinking water. For a number of reasons, raw water from the Flint River is significantly more corrosive than the lake water that DWSD uses. Despite this, Flint chose not to treat the raw Flint River water by any method traditionally associated with preventing lead corrosion. Multiple consultants and the EPA advised the city to use additional corrosion control measures, but that advice went unheeded by the City of Flint and the MDEQ.

Foreseeably, lead has been seeping into Flint's drinking water for more than a year, causing an alarming rise in the number of children in Flint with elevated blood lead levels. Independent research conducted by Virginia Tech professor Marc Edwards indicated high lead levels in tap water, and a study led by Hurley Medical Center pediatrician Dr. Mona Hanna-Attisha revealed that in high-risk areas of the city, the rate of lead overexposure among children more than doubled since switching water sources. State data have confirmed these results.

Additionally, several questions remain regarding how Flint and state officials conducted water sampling under the Lead and Copper Rule. Allegedly, officials did not target samples in high-risk Tier 1 locations or repeat locations in subsequent tests. Consumers were also instructed to pre-flush their taps prior to collecting samples, resulting in lower lead level results. It is unclear whether a sufficient number of samples were taken or why MDEQ excluded two high lead level samples from Flint's July 2015 water quality report.

SENATE MINORITY LEADER
JIM ANANICH

517.373.0412
senjananich@senate.michigan.gov
senatedems.com/ananich

/jimananich @jimananich

The State of Michigan has pledged to help reconnect the City of Flint to DWSD and take additional steps to help remediate the lead problem. However, these are stopgap measures that will never undo the damage already done.

Ultimately, the EPA retains the ability and responsibility to oversee the state's efforts to obtain and maintain safe drinking water for its residents. As such, I appreciate that the EPA has established the Flint Safe Drinking Water Task Force. However, it also is within the EPA's power to review the actions of MDEQ and the City of Flint as they pertain to lead testing and treatment under the Lead and Copper Rule. We want to ensure Flint remains compliant once it switches its permanent water source to the Karegnondi Water Authority.

I respectfully request that, under 40 CFR Sec. 142.19, Regional Administrator Hedman review MDEQ's determinations regarding corrosion control for lead in Flint, Michigan. Regardless of the findings, I am also requesting that Regional Administrator Hedman make public all evidence gathered during the course of that review. Michigan citizens deserve to know whether MDEQ is operating safely and effectively.

If you have any questions, please contact my office at senjananich@senate.mi.gov or (517) 373-0142. Thank you for your consideration.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

cc:
Governor Rick Snyder
U.S. Representative Dan Kildee
U.S. Senator Debbie Stabenow
U.S. Senator Gary Peters
State Representative Sheldon Neeley, District 34
State Representative Phil Phelps, District 49
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Dan Wyant, MDEQ
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Krisztian, George (DEQ)
Sent: Thursday, October 22, 2015 10:15 AM
To: Sygo, Jim (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ)
Cc: Wyant, Dan (DEQ)
Subject: FW: Flint PbCu data DRAFT DELIBERATIVE. NOT SUBJECT TO FOIA.
Attachments: 2014 Flint PbCu.pdf; 2015 Flint PbCu.pdf; Flint 90th calculation 14-15.xlsx

For your records.

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, October 14, 2015 3:42 PM
To: Groetsch, Kory J. (DHHS); Dykema, Linda D. (DHHS)
Cc: Rosenthal, Adam (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Krisztian, George (DEQ); Devereaux, Tracy Jo (DEQ)
Subject: FW: Flint PbCu data DRAFT DELIBERATIVE. NOT SUBJECT TO FOIA.

Attached are the pdf/scanned forms that were submitted by the city (we do have the individual lab sheets, but didn't think those would be helpful) for the 2 six month rounds of monitoring conducted (July – December 2014 and January – June 2015). Also, Adam has provided the excel spreadsheet that he used to calculate the 90th percentile numbers for both rounds.

Ask if you have questions.

Liane

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, October 14, 2015 3:34 PM
To: Shekter Smith, Liane (DEQ)
Subject: Flint PbCu data

The excel document is sorted low to high for each parameter and are independent of each other, ie. same row doesn't mean from the same site.

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

2310

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEAD AND COPPER REPORT AND CONSUMER NOTICE OF LEAD RESULT CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint
2. County: Genesee 3. WSSN: **2310**
4. Population: 5. Monitoring Period: From: 7/1/2014 To: 12/31/2014
6. Minimum # of Samples Required: 100 7. # of Samples Taken: 100
8. Name of Certified Laboratory: MDEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see *Instructions* paragraph 11, subparagraph "Sample Category."
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	

Comments: The increased number of samples required has led to many new sample sites.

10. NAME:

Name: Michael Glasgow

Title: Assistant Water Plant Supervisor Phone: (810)787-6537 Date: 2/27/15

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint / Genesee WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2205 Flushing Rd.	11/19/14	1	L		N.D.	110	
3814 Whitter Ave.	11/20/14	1	L		2	N.D.	
3521 Bennett Ave	11/21/14	1	L		2	N.D.	
1914 Penbrook Ln	11/20/14	1	L		N.D.	N.D.	
305 Allendale Pl.	11/24/14	1	L		2	130	
518 Frost St.	12/1/14	1	L		1	N.D	
3120 Norwood Dr.	12/2/14	1	L		N.D.	N.D.	
1901 Crestbrook Ln.	11/25/14	1	L		N.D.	70	
3727 Maryland Ave.	12/3/14	1	L		1	N.D.	
1220 Beard St.	12/2/14	1	L		10	60	
3718 Dolphaine Ln	12/3/14	1	L		N.D.	N.D.	
2213 Flushing Rd	12/3/2014	1	L		1	100	
721 East St.	12/10/14	1	L		9	120	
1125 Barrie Ave	12/5/14	1	L		4	N.D.	
1505 Woodlawn Park Dr.	12/6/2014	1	L		5	N.D.	
2622 Windmere	12/7/14	1	L		5	N.D.	
3517 Bennett	12/10/14	1	L		3	N.D.	
927 Kensington Ave.	12/5/14	1	L		N.D.	110	
1109 Kensington Ave.	12/4/14	1	L		N.D.	N.D.	
1901 Montclair Ave.	12/5/14	1	L		4	60	

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint / Genesee WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
1809 Lynbrook	12/4/14	1	L		2	N.D.	
1130 Simcoe Ave.	12/5/14	1	L		2	50	
413 Burroughs Ave	12/4/14	1	L		N.D.	N.D.	
2079 Zimmerman	12/8/14	1	L		4	N.D.	
2615 Westwood Pkwy	12/6/14	1	L		2	280	
2441 Norbert	12/8/14	1	L		8	60	
711 Kensington Ave.	12/9/14	1	L		3	N.D.	
2015 Gold Ave.	12/4/14	1	L		2	N.D.	
618 S. Meade St.	12/8/14	1	L		2	N.D.	
2802 Westwood Pkwy.	12/5/14	1	L		1	110	
860 Schafer St.	12/8/14	1	L		N.D.	70	
1021 S. Franklin Ave.	12/5/14	1	L		4	N.D.	
1616 Durand St.	12/5/14	1	L		N.D.	200	
928 Durand	12/7/14	1	L		N.D.	N.D.	
2730 Westwood Pkwy	12/4/14	1	L		23	290	
1543 Kearsley Park Blvd.	12/4/14	1	L		1	N.D.	
2920 Parkside Dr.	12/5/14	1	L		10	220	
2721 Westwood Pkwy	12/5/14	1	L		2	110	
1002 Durand St.	12/4/14	1	L		2	110	
2560 Thomas St.	12/4/14	1	L		N.D.	N.D.	

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint / Genesee WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
815 Bradley Ave.	12/7/14	1	L		5	270	
4013 Brownell Blvd.	12/8/14	1	L		2	80	
2418 Gold Ave.	12/10/14	1	L		N.D.	N.D.	
626 Commomwealth Ave	12/5/14	1	L		3	N.D.	
920 Stocker St.	12/9/14	1	L		N.D.	N.D.	
430 Westcombe Ave.	12/9/14	1	L		2	N.D.	
1623 Neome Dr.	12/5/14	1	L		7	70	
3802 Gorey Ave.	12/8/14	1	L		1	50	
1720 Davison Rd.	12/4/14	1	L		2	130	
2110 Mountain Ave.	12/8/14	1	L		5	60	
2006 Clement St.	12/3/14	1	L		3	N.D.	
2028 Corunna Rd.	12/7/14	1	L		N.D.	N.D.	
2829 Yale St.	12/10/14	1	L		N.D.	N.D.	
1914 W. Home Ave.	12/15/14	1	L		4	N.D.	
2920 N. Dexter St.	12/15/14	1	L		N.D.	70	
2810 Kellar Ave.	12/15/14	1	L		N.D.	N.D.	
3245 Montana Ave.	12/15/14	1	L		4	N.D.	
3623 Norwood Dr.	12/15/14	1	L		1	N.D.	
2801 Reynolds	12/8/14	1	L		2	N.D.	
3510 Brandon St.	12/10/14	1	L		5	80	

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint / Genesee WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2117 Stanford Ave.	12/11/14	1	L		3	N.D.	
5806 Leslie Dr.	12/12/14	1	L		N.D.	N.D.	
1809 W. Home Ave.	12/11/14	1	L		1	N.D.	
1414 Stone St.	12/12/14	1	L		2	N.D.	
2006 Aitken Ave.	12/16/14	1	L		N.D.	N.D.	
3131 Wolcott	12/17/14	1	L		N.D.	N.D.	
983 Gainey Ave.	12/17/14	1	L		N.D.	100	
2806 Norbert St.	12/18/14	1	L		N.D.	N.D.	
912 Crawford St.	12/15/14	1	L		1	110	
4024 Sterling	12/16/14	1	L		1	N.D.	
3737 Worchester Dr.	12/16/14	1	L		N.D.	140	
1100 Stockton St.	12/16/14	1	L		6	N.D.	
1725 Lincoln Ave.	12/21/14	1	L		2	N.D.	
3139 Colorado	12/16/14	1	L		N.D.	N.D.	
1401 Gainey Ave.	12/20/14	1	L		4	N.D.	
2730 Coventry Ct.	12/19/14	1	L		N.D.	N.D.	
709 Frost St.	12/19/14	1	L		N.D.	N.D.	
2307 Radcliffe	12/20/14	1	L		37	80	
224 E. Court St.	12/15/14	1	L		4	N.D.	
3440 Rangeley	12/13/14	1	L		N.D.	N.D.	

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint / Genesee WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
3808 Brownell Blvd.	12/16/14	1	L		N.D.	90	
1006 Kensington	12/19/14	1	L		2	N.D.	
2517 Delaware Ave.	12/18/14	1	L		5	200	
1810 W. Hobson Ave.	12/21/14	1	L		N.D.	N.D.	
5805 Leslie Dr.	12/21/14	1	L		2	N.D.	
1721 Chelsea Circle	12/22/14	1	L		N.D.	N.D.	
912 Waldman Ave.	12/23/14	1	L		N.D.	N.D.	
3082 Lanning Dr.	12/24/14	1	L		N.D.	N.D.	
25151 Chicago Blvd.	12/26/14	1	L		6	N.D.	
742 Lincoln Ave.	12/26/14	1	L		3	N.D.	
1805 Ramsay Blvd.	12/27/14	1	L		4	N.D.	
1910 Ramsay Blvd.	12/20/14	1	L		N.D.	N.D.	
3009 Montana Ave.	12/29/14	1	L		1	N.D.	
1223 Campbell St.	12/30/14	1	L		1	N.D.	
3821 Delaware	12/27/14	1	L		N.D.	N.D.	
1651 Woodlawn Pk Blvd.	12/29/14	1	L		N.D.	N.D.	
1911 Corry St.	12/30/14	1	L		4	N.D.	
3507 Dearborn Ave.	12/20/14	1	L		6	N.D.	
3829 Ivanhoe Ave.	12/29/14	1	L		N.D.	N.D.	
1559 Cherolet Ave	12/30/14	1	L		9	N.D.	

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb	6.0			2
Cu	110			0

Consumer Notice of Lead & Copper Results in Drinking Water

Water Supply Name: City of Flint

County: Genesee WSSN: 2310

Sample Location 2205 Flushing Rd. Date Sampled: 11/19/2014

Thank you for participating in the lead and copper monitoring of drinking water. The levels of lead and copper found at your location are in the table below.

Key to Table	Contaminant	AL	MCLG	Your Result
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water which there is no known or expected risk to health. MCLG's allow for a margin of safety. **ppb:** parts per billion or micrograms per liter.	Lead (ppb)	15	0	Not Detected
	Copper (ppb)	1300	1300	110

Lead can cause serious health problem if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and it can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects on the brain with lower IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

To reduce exposure to lead in drinking water:

- Run your water to flush out lead. Run the water until it becomes cold.
- Use cold water for cooking and preparing baby formula. Do not cook with or drink water from the hot tap; lead dissolves more easily in hot water.
- Do not boil water to remove lead. Boiling water will not reduce lead levels.
- Look for an alternative sources or treatment of water. If your lead result is above 15 ppb, you may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for information on performance standards for water filters.
- Identify if your plumbing fixtures contain lead. New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised as lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water.

For more information, contact us at: City of Flint Water Plant (810)787-6537.

For more information on reducing lead exposure around your home ant the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEAD AND COPPER REPORT AND CONSUMER NOTICE OF LEAD RESULT CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: **2310**
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 60 7. # of Samples Taken: 69
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see *Instructions* paragraph 11, subparagraph "Sample Category."
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	
Comments: Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples required was reduced to 60.			

10. NAME:

Name: Michael Glasgow

Title: Utilites Administrator Phone: 810-766-7135 Date: 8/20/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave.	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave.	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquettte Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751
2606 Mountain Ave.	4/15/2015	1	L	P	N.D.	N.D.	60546

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robbie Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robbie Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7th St.	6/12/15	1	L	C,P	7	0.07	68792
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/15/14	1	L	P	18	N.D.	68794

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2114 Flushing Rd.	6/30/15	1	L	P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

Consumer Notice of Lead Result in Drinking Water

Water Supply Name:	City of Flint		
County:	Genesee	WSSN:	**2310**
Sample Location:	401 E. Newall St.	Date Sampled:	**3/2/15**

Thank you for participating in the lead and copper monitoring of drinking water. The levels of lead and copper found at your location are in the table below.

Key to Table	Contaminant	AL	MCLG	Your Result
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. **ppb:** parts per billion or micrograms per liter.	Lead (ppb)	15	0	5
	Copper (ppb)	1300	1300	Not Detected

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and it can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

To reduce exposure to lead in drinking water:

- *Run your water to flush out lead.* Run the water until it becomes cold.
- *Use cold water for cooking and preparing baby formula.* Do not cook with or drink water from the hot water tap; lead dissolves more easily in hot water.
- *Do not boil water to remove lead.* Boiling water will not reduce lead levels.
- *Look for alternative sources or treatment of water.* If your lead result is above 15 ppb, you may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for information on performance standards for water filters.
- *Identify if your plumbing fixtures contain lead.* New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised or labeled as "lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water.

For more information, contact us at: City of Flint Water Plant (810) 787-6537.
For more information on reducing lead exposure around your home and the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

Certification: WSSN: 2310

I certify that this public water supply has provided the consumer notice of lead result to persons served at each of the taps that was tested, either by mail or by another method approved by the DEQ, within 30 days of knowing the result. The Notice includes required content.

Michael Glasgow — Signature
UTILITIES ADMINISTRATOR — Title
3/17/15 — Date Sent to Consumer

Reminder to water supplier: Complete this certification on only one (1) example copy of a notice sent to a consumer and submit it to the DEQ.

	A	B	C	D	E	F	G	H	I	J
1	Flint 02310									
2	For monitoring period 7/1/14 - 12/31/14									
3		Pb	Cu							
4	1	0	0							
5	2	0	0							
6	3	0	0							
7	4	0	0							
8	5	0	0							
9	6	0	0							
10	7	0	0							
11	8	0	0							
12	9	0	0							
13	10	0	0							
14	11	0	0							
15	12	0	0							
16	13	0	0							
17	14	0	0							
18	15	0	0							
19	16	0	0							
20	17	0	0							
21	18	0	0							
22	19	0	0							
23	20	0	0							
24	21	0	0							
25	22	0	0							
26	23	0	0							
27	24	0	0							
28	25	0	0							
29	26	0	0							
30	27	0	0							
31	28	0	0							
32	29	0	0							
33	30	0	0							
34	31	0	0							
35	32	0	0							

	A	B	C	D	E	F	G	H	I	J
36	33	0	0							
37	34	0	0							
38	35	0	0							
39	36	0	0							
40	37	0	0							
41	38	1	0							
42	39	1	0							
43	40	1	0							
44	41	1	0							
45	42	1	0							
46	43	1	0							
47	44	1	0							
48	**45**	1	0							
49	46	1	0							
50	47	1	0							
51	48	1	0							
52	49	1	0							
53	50	2	0							
54	51	2	0							
55	52	2	0							
56	53	2	0							
57	54	2	0							
58	55	2	0							
59	56	2	0							
60	57	2	0							
61	58	2	0							
62	59	2	0							
63	60	2	0							
64	61	2	0							
65	62	2	0							
66	63	2	0							
67	64	2	0							
68	65	2	0							

	A	B	C	D	E	F	G	H	I	J
69	66	2	0							
70	67	2	0							
71	68	3	0							
72	69	3	50							
73	70	3	50							
74	71	3	60							
75	72	3	60							
76	73	3	60							
77	74	4	60							
78	75	4	70							
79	76	4	70							
80	77	4	70							
81	78	4	70							
82	79	4	80							
83	80	4	80							
84	81	4	80							
85	82	4	90							
86	83	4	100							
87	84	5	100							
88	85	5	110							
89	86	5	110							
90	87	5	110							
91	88	5	110							
92	89	5	110							
93	90	6	110							
94	91	6	120							
95	92	6	130							
96	93	7	130							
97	94	8	140					**90th**	**6**	**110**
98	95	9	200					**average**	**3**	**38**
99	96	9	200					**max**	**37**	**290**
100	97	10	220					**min**	**0**	**0**
101	98	10	270					**# > AL**	**2**	**0**

	A	B	C	D	E	F	G	H	I	J
102	99	23	280							
103	100	37	290							

	A	B	C	D	E	F	G	H	I
1		Pb	Cu		02310 - Flint PbCu 1st 1/2 2015				
2	1	0	0						
3	2	0	0						
4	3	0	0						
5	4	0	0						
6	5	0	0						
7	6	0	0						
8	7	0	0						
9	8	0	0						
10	9	0	0						
11	10	0	0						
12	11	0	0						
13	12	0	0						
14	13	0	0						
15	14	1	0						
16	15	1	0						
17	16	1	0						
18	17	1	0						
19	18	2	0						
20	19	2	0						
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22	21	2	0						
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24	23	2	0						
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26	25	2	0						
27	26	2	0						
28	27	2	0						
29	28	2	0						
30	29	3	0						
31	30	3	0						
32	31	3	0						
33	32	3	0						

	A	B	C	D	E	F	G	H	I
34	33	3	0						
35	34	3	50						
36	35	3	50						
37	36	3	50						
38	37	3	50						
39	38	3	60						
40	39	3	60						
41	40	4	60						
42	41	4	60						
43	42	5	60						
44	43	5	60						
45	44	5	70						
46	45	5	70						
47	46	5	80						
48	47	5	80						
49	48	5	80						
50	49	5	90						
51	50	6	100						
52	51	6	100						
53	52	6	100						
54	53	6	100						
55	54	7	110						
56	55	7	110						
57	56	7	110						
58	57	8	130						
59	58	8	140						
60	59	9	140						
61	60	10	150						
62	61	10	160						
63	62	11	160	90th = 62.1					
64	63	13	170			90th	11.2	161	ppb
65	64	18	190			average	5.72	66.38	
66	65	21	200			max	42	520	

	A	B	C	D	E	F	G	H	I
67	66	22	270			min	0	0	
68	67	29	280			# > AL	6	0	
69	68	42	310						
70	69	42	520						

From: Krisztian, George (DEQ)
Sent: Thursday, October 22, 2015 10:22 AM
To: Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Cc: Wyant, Dan (DEQ)
Subject: FW: 3rd Quarter Water Report

For your records.

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Marc Edwards [mailto:edwardsm@vt.edu]
Sent: Thursday, October 15, 2015 7:29 PM
To: 'Howard Croft'; 'Laura Sullivan'
Cc: 'Gerald (Jed) Natzke'; 'Andy Leavitt'; 'Amy Hovey'; 'Brent Wright'; 'Lytle, Darren'; 'Flint Mayor'; 'donna.cole'; Dykema, Linda D. (DHHS); Krisztian, George (DEQ); 'Henry, James'; 'James Gaskin'; 'Jason Lorenz'; 'jmikewright'; 'JoAnne Herman'; 'John O'Brien'; 'Kirk Smith'; larry.koehler@mcc.edu; 'Lawrence Reynolds'; 'Lawrence Reynolds'; 'Michael Glasgow'; 'Wright, Michael'; 'Lane, Mike'; Prysby, Mike (DEQ); 'Natasha Henderson'; 'Norb Birchmeier'; 'Pete Levine'; 'Robert Bincsik'; rosejo@msu.edu; 'Russell Hudson'; 'Samir Matta'; schock.michael@epa.gov; 'Sean Kammer'; Busch, Stephen (DEQ); 'Warren Green'; Wurfel, Brad (DEQ); 'Anthony Chubb'; 'Kevin Keane'
Subject: RE: 3rd Quarter Water Report

I have gotten a lot of questions about this., so figured I would answer in one e-mail.

The city is still using the MDEQ sampling approach. That method takes the EPA sampling method, and adds two modifications, both of which are technically legal, but "miss" lead in water that is normally present when people use it. I have been trying to get these modifications banned since 2007, because they give a false low measurement of lead in water risks on the day you sample. As a result, a city can be meeting the EPA rule, technically, and still have a huge problem with elevated blood lead in children.

The two modifications are:

1) **Using a sample bottle with a tiny opening**. This forces consumers to fill the bottles at a very low flow rate. The net effect of this, is that particulate Pb that would normally flow into a consumers water glass at a normal flow rate, stays on the pipe when you sample for lead. When a consumer fills a glass or collects water for drinking, the particles fall off.
2) **Pre-cleaning the pipes the night before sampling (aka. Pre-flush).** This basically remediates and sweeps the pipe clean of lead the night before sampling, so that the next morning when you sample, you get unusually low lead. The sampling protocol used by MDEQ requires a **5 minute pre-cleaning.**

When Virginia Tech sampled in Flint, we used the EPA protocol, without the modifications that miss lead in water problems.

I hope this explains the discrepancy. The MDEQ approach could give people a result for 0 ppb lead in water, and when they collect a sample for cooking or drinking it can be 100 ppb. I have seen it happen. **No one who is getting a low result using the MDEQ approach, should be told their water is safe to drink.** The result is meaningless. If it is high with

the MDEQ approach, you have a very, very serious problem. MDEQ is also not the only primacy agency in the country using these methods that miss lead, so **I am not blaming anyone, I am just stating the facts.**

Miguel Del Toral of EPA warned MDEQ to stop using this method back in Apri-May in writing, because it would hide a lead problem if they existed, and they basically told him to mind his own business. I also asserted that Miguel was right, in the ACLU report in June. http://www.deadlinedetroit.com/articles/12697/scary_leaded_water_and_one_flint_family_s_toxic_nightmare#.ViA1Zn7nvIU

Best Regards, Marc

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, October 23, 2015 12:17 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of October 19, 2015
Attachments: Week of 101915 Flint Water E-Clips.pdf

DEQ e-clips

Week of October 19, 2015

Flint Water Articles

Austrian Tribune: Michigan DEQ Director Dan Wyant acknowledges mistakes by the state in handling Flint water emergency
http://austriantribune.com/informationen/155381-michigan-deq-director-dan-wyant-acknowledges-mistakes-state-handling-flint

Detroit Free Press: Flint gets EPA help in reconnecting to Detroit water
http://www.freep.com/story/news/local/michigan/2015/10/16/flint-epa-detroit-water/74062362/

Mich. official: Water rules not followed in Flint
http://www.freep.com/story/news/local/michigan/2015/10/19/michigan-official-federal-water-rules-not-followed-in-flint/74207204/

MDEQ e-mails show stunning indifference to Flint peril
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/10/21/indifference-characterized-state-approach-flint-water/74289430/

Task force appointed to examine Flint water controversy
http://www.freep.com/story/news/politics/2015/10/21/task-force-appointed-examine-flint-water-controversy/74342628/

Detroit News: Michigan DEQ vows changes in Flint water crisis
http://www.detroitnews.com/story/news/environment/2015/10/18/deq-mistakes/74198882/

Snyder defends environmental director on Flint crisis
http://www.detroitnews.com/story/news/politics/2015/10/19/snyder-defends-environmental-quality-director-flint-crisis/74229710/

Kildee calls for federal probe of Flint water crisis

http://www.detroitnews.com/story/news/local/michigan/2015/10/21/flint-water-epa-kildee/74326460/

MLive: Federal task force will advise Flint, Michigan DEQ on city water
http://www.mlive.com/news/flint/index.ssf/2015/10/us_epa_task_force_will_advise.html

Flint reconnects to Detroit water, may take 3 weeks to clear all pipes
http://www.mlive.com/news/flint/index.ssf/2015/10/flint_reconnecting_to_detroit.html

DEQ replaces water official after state acknowledges 'mistake' in Flint
http://www.mlive.com/news/flint/index.ssf/2015/10/top_state_water_official_repla.html#incart_m-rpt-2

DEQ chief says state used wrong federal water rules in Flint for 17 months
http://www.mlive.com/news/flint/index.ssf/2015/10/state_deq_flint_should_have_be.html#incart_story_package

Emails show feds warned state in February of leaching lead in Flint
http://www.mlive.com/news/flint/index.ssf/2015/10/emails_show_feds_told_state_of.html

Detroit group meets with DEQ director on Flint water, asks him to resign
http://www.mlive.com/news/flint/index.ssf/2015/10/detroit_group_meets_with_michi.html#incart_story_package

City will conduct internal review of Flint water crisis, administrator says
http://www.mlive.com/news/flint/index.ssf/2015/10/flint_administrator_says_city.html

State says it will speed up money transfer to Flint for Detroit water
http://www.mlive.com/news/flint/index.ssf/2015/10/flint_administrator_says_state.html#incart_river

Michigan Radio: State admits Flint did not follow federal rules designed to keep lead out of water
http://michiganradio.org/post/state-admits-flint-did-not-follow-federal-rules-designed-keep-lead-out-water

Flint wants tougher consequences for MDEQ mistakes
http://michiganradio.org/post/flint-wants-tougher-consequences-mdeq-mistakes#stream/0

The Times Herald: Plenty of blame to go around in Flint
http://www.thetimesherald.com/story/opinion/editorials/2015/10/20/plenty-blame-go-around-flint/74261550/

Rosemarie Olszewski

General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of October 19, 2015

Flint Water Articles

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The Times Herald: Plenty of blame to go around in Flint
http://www.thetimesherald.com/story/opinion/editorials/2015/10/20/plenty-blame-go-around-flint/74261550/

From: Krisztian, George (DEQ)
Sent: Wednesday, October 28, 2015 7:25 AM
To: Shekter Smith, Liane (DEQ)
Cc: Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Feuerstein, Heather (DEQ);Pallone, Maggie (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Sygo, Jim (DEQ);Howes, Sarah (DEQ);Shaler, Karen (DEQ)
Subject: RE: FOIA Reply Due 11/16 - FW: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15
Attachments: 0510.pdf

Liane, (Please see attached FOIA)

Please correct me if I am wrong but with respect to this FOIA, there were no school sampling protocols that MDEQ used within the given timeframe (January 2014 to October 27, 2015) except for the one that was just written.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Shaler, Karen (DEQ)
Sent: Tuesday, October 27, 2015 6:23 PM
To: Feuerstein, Heather (DEQ); Howes, Sarah (DEQ); Pallone, Maggie (DEQ); Sygo, Jim (DEQ); Thelen, Mary Beth (DEQ); Tommasulo, Karen (DEQ); Wurfel, Brad (DEQ); Wyant, Dan (DEQ); Krisztian, George (DEQ)
Subject: FOIA Reply Due 11/16 - FW: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

By Monday, November 16, please let me know whether or not you have responsive records for the attached FOIA request regarding sampling lead in Flint's drinking water. If you do have records, I'll need an estimate of the number of pages and how much time you spent searching for the records.

For your convenience, following are the links listed in this FOIA request:

http://www.mlive.com/news/flint/index.ssf/2015/10/three_flint_schools_water_exce.html

https://www.facebook.com/photo.php?fbid=10153054889135957

Thanks!

From: DEQFOIA
Sent: Tuesday, October 27, 2015 2:06 PM
To: DEQ-RMD-FOIA; Rennaker, Joanne (DEQ); Shaler, Karen (DEQ)
Cc: Vorce, Susan (DEQ)
Subject: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

2016FOIAs			
County	**DueDate**	**Divisions**	**Hyperlink**
Genesee	11/18/2015	RMD, EXEC	U:\Transfer\FOIAs\2016FOIAs\0500 thru 0599\0510.pdf

Rose Woosley
OEA-EAC
Department of Environmental Quality
517-284-6890 / 800-662-9278
Fax: 517-241-0858
Deqfoia@michigan.gov

Woosley, Rosemary (DEQ)

0510-16
RMD - EXEC
Lansing
Due: 11-18-15

From: Yanna Lambrinidou <pnalternatives@yahoo.com>
Sent: Tuesday, October 27, 2015 1:25 PM
To: DEQFOIA
Subject: FOIA request

To the FOIA coordinator:

I hereby request a copy of all lead-in-water sampling protocols that MDEQ has used, and is using currently, to sample lead in the drinking water of Flint, MI schools anytime between January 2014 and today.

http://www.mlive.com/news/flint/index.ssf/2015/10/three_flint_schools_water_exce.html

https://www.facebook.com/photo.php?fbid=10153054889135957

Thank you,

Yanna Lambrinidou PhD
Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dcwasawatch.blogspot.com

From: Shaler, Karen (DEQ)
Sent: Wednesday, October 28, 2015 4:25 PM
To: Shekter Smith, Liane (DEQ);DEQFOIA
Cc: Devereaux, Tracy Jo (DEQ);Rennaker, Joanne (DEQ);Looney, Carolyn (DEQ);Benzie, Richard (DEQ);DeBruyn, Dana (DEQ);Busch, Stephen (DEQ);Krisztian, George (DEQ);Feuerstein, Heather (DEQ);Howes, Sarah (DEQ);Pallone, Maggie (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: RE: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15
Attachments: 0510.pdf

Thanks, Liane. I know that you and Tracy Jo will provide the records to me when appropriate.

Executive Division staff: Please note that I don't need a response from you for FOIA 0510-16.

Susan Vorce: Please note that only ODWMA central office will be providing the responsive records, so this FOIA should be closed for Executive and Lansing District. Thanks.

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, October 28, 2015 3:54 PM
To: Devereaux, Tracy Jo (DEQ)
Cc: Shaler, Karen (DEQ); Rennaker, Joanne (DEQ); Looney, Carolyn (DEQ); Benzie, Richard (DEQ); DeBruyn, Dana (DEQ); Busch, Stephen (DEQ); Krisztian, George (DEQ)
Subject: RE: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

ODWMA central will take care of responding to this request.

Richard and Dana – please see below. We'll need to produce/compile all of our lead/copper sampling protocols. We'll need instructions to schools in the Noncommunity program and we'll need instructions to homeowners in the community program. Thanks.

I'll take care of providing the recently drafted sampling protocol for schools.

From: Devereaux, Tracy Jo (DEQ)
Sent: Wednesday, October 28, 2015 8:14 AM
To: Shekter Smith, Liane (DEQ)
Subject: FW: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

Please forward to appropriate staff (Benzie, etc. if necessary) it already went to Lansing DO.

Thanks,
Tracy Jo

From: Looney, Carolyn (DEQ)
Sent: Tuesday, October 27, 2015 5:21 PM
To: Devereaux, Tracy Jo (DEQ)
Subject: FW: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

Here's another FOIA regarding Flint's water. I am assuming that the Lansing District Office (LDO) has all the information that this FOIA is requesting (they also received this FOIA), but, just to be sure, please read the FOIA and let me know if you have anything LDO doesn't.

Thanks!

Carolyn Looney
Secretary for the Environmental Health Section
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
Phone: 517-284-6535
Fax: 517-241-1328
Email: looneyc@mi.gov

From: DEQ-RMD-FOIA
Sent: Tuesday, October 27, 2015 3:25 PM
To: Looney, Carolyn (DEQ)
Subject: FW: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

Tamara Mankel (Roehrs)
Administration Section
Resource Management Group
517.284.6510

From: DEQFOIA
Sent: Tuesday, October 27, 2015 2:06 PM
To: DEQ-RMD-FOIA; Rennaker, Joanne (DEQ); Shaler, Karen (DEQ)
Cc: Vorce, Susan (DEQ)
Subject: 0510 - RMD/EXEC plus Lansing, Due: 11/18/15

2016FOIAs			
County	**DueDate**	**Divisions**	**Hyperlink**
Genesee	11/18/2015	RMD, EXEC	U:\Transfer\FOIAs\2016FOIAs\0500 thru 0599\0510.pdf

Rose Woosley
OEA-EAC
Department of Environmental Quality
517-284-6890 / 800-662-9278
Fax: 517-241-0858
Deqfoia@michigan.gov

Woosley, Rosemary (DEQ)

0510-16
RMD - EXEC
Lansing
Due: 11-18-15

From: Yanna Lambrinidou <pnalternatives@yahoo.com>
Sent: Tuesday, October 27, 2015 1:25 PM
To: DEQFOIA
Subject: FOIA request

To the FOIA coordinator:

I hereby request a copy of all lead-in-water sampling protocols that MDEQ has used, and is using currently, to sample lead in the drinking water of Flint, MI schools anytime between January 2014 and today.

http://www.mlive.com/news/flint/index.ssf/2015/10/three_flint_schools_water_exce.html

https://www.facebook.com/photo.php?fbid=10153054889135957

Thank you,

Yanna Lambrinidou PhD
Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dcwasawatch.blogspot.com

From: Dykema, Linda D. (DHHS)
Sent: Thursday, October 29, 2015 8:40 AM
To: Grijalva, Nancy (DHHS);Eisner, Jennifer (DHHS);Wurfel, Brad (DEQ);Krisztian, George (DEQ);Sygo, Jim (DEQ);Wyant, Dan (DEQ);Minicuci, Angela (DHHS);Lyon, Nick (DHHS);Lasher, Geralyn (DHHS);Hertel, Elizabeth (DHHS)
Cc: Moran, Susan (DHHS);Wells, Eden (DHHS);Miller, Corinne (DHHS)
Subject: IEUBK Lead Model
Attachments: draft deliberative TSG Subcommittee drinking water lead levels 10-16-2015.pdf

All,

Attached is the technical justification that explains the EPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model in general as well as the specific inputs and assumptions used to model risks for lead levels in Flint school's drinking water.

Per our discussion yesterday, please note that the model does not include inputs specifically for the paint chip ingestion. What we can and will do is run the model using dust lead levels from a Michigan-specific study that evaluated lead concentrations in the dust inside houses of varying age. As would be expected, the dust in older homes contains more lead due to the use of lead-based paint prior to 1978. However, the effect of increasing dust-lead levels will be similar to that in the graphs illustrating the effect of increasing soil levels because the model default assumes that the inside dust-lead concentration is a fraction of that of soil unless more specific data are entered.

I wanted to share the technical justification with you now so that you could see the level of scientific detail represented in the modeled results. Please also note that Michigan-specific values (e.g., air and soil concentrations) were used if available, rather than the national defaults. Dr. Jennifer Gray, the HHS toxicologist with the most expertise in this model, is currently away from the office. When she returns, Dr. Gray could provide a technical briefing if you'd like.

Linda

Justification of the drinking water "no corrective action" lead level for use in the Flint school and daycare drinking water sample decision tree

The Michigan Department of Health and Human Services (MDHHS) requested that the Toxic Steering Group (TSG) provide endorsement of a health-based drinking water lead level that would require "no corrective action" to put back into service drinking water faucets and fountains used by Flint school and daycare children. Selection of the "corrective actions" was not included in the charge question and is not discussed in this document. A TSG subcommittee was convened to examine this issue. Subcommittee members included Deb Mackenzie-Taylor (Michigan Department of Environmental Quality [MDEQ]), Robert Sills (MDEQ), Eric Wildfang (MDEQ), Jennifer Gray (MDHHS), Christine Flaga (MDEQ), and Kory Groetsch (MDHHS).

Neither the Centers for Disease Control and Prevention's Agency for Toxic Substances and Disease Registry (ATSDR) nor the U.S. Environmental Protection Agency (EPA) have derived toxicity endpoints (e.g. reference dose, minimal risk level) for lead to be used in risk assessments. Both agencies have stated that no blood lead level has been found to be safe and precautionary actions to reduce exposure to lead, such as running tapwater briefly before use, should always be followed. Due to the pharmacokinetic data and initial acceptable blood lead, the EPA developed a biokinetic model for evaluating lead exposure from multiple media. Lead levels in air, soil, house dust, diet, drinking water, and maternal blood are used to estimate geometric mean blood lead levels for a population of children and the probability that a child would be above a specified blood lead level[1]. The model results are compared to an EPA population health protection goal for young children exposed to lead at residential properties of 5% or lower risk of a child having a blood level greater than the CDC reference value of 5 micrograms lead per deciliter blood (µg/dL)[2]. The model, however, does not include inputs to account for direct paint chip ingestion and assumes that children are not exposed to elevated lead in soil and house dust from lead based paint.

Use of the EPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model

The EPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children version 1.1 Build 11 was used to evaluate exposure to children one year old or younger and children seven years old or younger. Default values were retained unless otherwise noted below. See Table 2-1 in the "User's Guide for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) Windows©" for the listing of all the default values[3]. Values selected that are more appropriate for a Michigan urban area, Flint, are described briefly below.

[1] The modeling output includes the percent of children in a population that are above a specified blood lead level, but that value can be also be viewed as the probability (risk) that a certain child would be above the specified blood lead level.

[2] As stated on the EPA's Lead at Superfund Sites: Frequent Questions from Risk Assessors on the Integrated Exposure Uptake Biokinetic (IEUBK) Model webpage, found at http://www2.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-integrated-exposure-uptake#mean.

[3] The model itself and documentation, including the user's guide for the model can be found at http://www2.epa.gov/superfund/lead-superfund-sites-software-and-users-manuals.

Air data

MDEQ performs monitoring for lead in ambient air (as measured in Total Suspended Particulates; lead [TSP]) at a number of fixed stations in Michigan. Some of these monitoring stations (e.g., in Belding, Port Huron, and Vassar) were established to intentionally capture the influence of specific nearby industrial emissions, while others were established to provide data reflecting the general ambient air lead levels in urban areas. The TSG Subcommittee reviewed the ambient air monitoring data, focusing on urban ambient air lead data that would be representative of contemporary Flint conditions. The most recent MDEQ annual air monitoring report is for 2014[4]. The summary statistics provided in the MDEQ annual air quality reports include 3-month average (mean) levels, the highest value (24-hour sample), and the 2nd highest value (24-hour sample). The National Ambient Air Quality Standard (NAAQS) for lead (0.15 micrograms per cubic meter [$\mu g/m^3$]) has a 3-month averaging time.

Ambient air lead was monitored by MDEQ in Flint (Whaley Park; 3610 Iowa Ave.) until early 2007. The 2005 calendar quarter arithmetic mean values were 0.008, 0.010, 0.011, and 0.012 $\mu g/m^3$. The 2006 calendar quarter arithmetic mean values were 0.005, 0.007, 0.012, and 0.006 $\mu g/m^3$. Although Flint data more recent than 2007 are not available, MDEQ staff considered other urban lead monitoring sites to be fairly representative of Flint conditions. Grand Rapids, Allen Park, and Dearborn each had a highest rolling 3-month arithmetic mean lead (TSP) level of 0.01 $\mu g/m^3$ in 2013; for 2014, these values were 0.01 $\mu g/m^3$ for Grand Rapids and Allen Park and 0.02 $\mu g/m^3$ for Dearborn. These data indicate that the IEUBK model default value of 0.1 $\mu g/m^3$ is not the most appropriate air lead level for Flint, and support a representative value of 0.01 $\mu g/m^3$ for the air data model input assumption. While a slightly higher air lead level was obtained for Dearborn, the small difference between 0.01 and 0.02 $\mu g/m^3$, would not impact model outputs.

Water consumption

The default drinking water intakes are age-dependent and based on national averages[5]. These were updated to match the mean drinking water intakes (direct and indirect) in Table 3-1 from the U.S. EPA Exposure Factors Handbook: 2011 Edition[6].

- 0-1 years old - 0.32 liter/day (L/d) (age-adjusted from the values in Table 3-1)
- 1-2 years old - 0.271 L/d
- 2-3 years old - 0.317 L/d
- 3-4 years old - 0.327 L/d (3 to 6 years old in Table 3-1)
- 4-5 years old - 0.327 L/d (3 to 6 years old in Table 3-1)

[4] The MDEQ 2014 Annual Air Quality Report can be found at http://www.michigan.gov/documents/deq/deq-aqd-amu-2014_Annual_Air_Quality_Report_492732_7.pdf?20151014123800.

[5] Per the "User's Guide for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) Windows©", "The default consumption rates are age-dependent and based on national averages. These consumption rates should be changed only when valid site-specific monitoring data is available."

[6] The U.S. EPA Exposure Factors Handbook: 2011 Edition can be found at file:///C:/Users/gravj/Downloads/EFH-COMPLETE.PDF.

- 5-6 years old - 0.327 L/d (3 to 6 years old in Table 3-1)
- 6-7 years old - 0.414 L/d (6 to 11 years old in Table 3-1)

Drinking water data for alternate drinking water sources

The alternate drinking water sources used for these modeling runs are listed below with a brief description.

- "Percent of Total Consumed as First Draw" – This value applies to household tap water. This was set to 0% as Genesee County issued an Public Health Emergency Advisory[7] recommending that no one drink the City of Flint water until it has been tested or unless it is being filtered through a filter meeting the National Sanitation Foundation (NSF)/American National Standards Institute (ANSI) standard 53.
- "Concentration of Lead in First Draw (µg/L)" – With the "Percent of Total Consumed as First Draw" set to 0%, this value will not alter the model run output so the default of 4 micrograms per liter (µg/L or parts per billion [ppb]) was retained.
- "Concentration of Lead in Flushed (µg/L)" – This value applies to household tap water. This was set to 1 µg/L (ppb) as filters meeting NSF/ANSI standard 53 are recommended for use in all households. The filters distributed remove greater than 99% of the lead and would result in filtered water containing lead levels of approximately 1 µg/L (ppb) or less.
- "Percentage of Total Consumed from Fountains" – This was set to 50%, as children in school and daycare settings spend around eight hours or more in those locations. Eight hours could be expected to be approximately half of their waking hours in a day. This value also assumes daily intake of drinking water from a school or daycare source. There could be variation in the amount of time children would actually be drinking water from these locations based on involvement in before- or after-school or daycare programs, activities, or events.
- "Concentration of Lead in Fountain Water (µg/L)" – Modeling runs were carried out for every 1 µg/L (ppb) step between zero and 15 µg/L, and also 30 and 100 µg/L (ppb). Modeling runs for the zero to 15 µg/L (ppb) steps were carried out to perform a sensitivity analysis to evaluate how a one µg/L (ppb) change in lead water concentrations alters the outputs of the model. The 30 and 100 µg/L (ppb) levels were included as preliminary representatives of high-end lead levels obtained from school drinking water fountains.

Site-specific soil data

Soil lead levels on residential properties vary greatly[8]. The primary influence is from pre-1978 use of lead paint on the outside of buildings[9,10,11]. Lead-paint was banned in 1978. In addition, the age of

[7] The Genesee County Public Health Emergency Declaration can be found at http://www.gchd.us/docs/public_health_emergency_announcement_10_1_15.pdf.

[8] Datko-Williams, L., A. Wilkie, et al. (2014). "Analysis of U.S. soil lead (Pb) studies from 1970 to 2012." Science of The Total Environment **468-469**: 854-863.

[9] Francek, M. A. (1992). "Soil lead levels in a small town environment: a case study from Mt Pleasant, Michigan." Environ Pollut **76**(3): 251-257.

housing[8,9], paint condition, and distance from the building can greatly impact the concentration of lead in soil. The soil lead concentrations near the foundation of houses with lead paint are frequently over 1,000 ppm[9,11,12,13]. Historic vehicle emissions from leaded gasoline are another source of residential soil lead, so distance from road and traffic volume at the time leaded gasoline was in use are also influential factors on residential soil concentrations[10,11,13]. Other potential influences are fill material (e.g., foundry sand, smelter slag), and/or local industrial emission sources. The highest soil lead concentrations are typically found in urban areas with high population density.

Soil lead data for residential soils in Flint are not currently available. Flint park data and other relevant residential soil lead studies were reviewed to evaluate appropriate surrogate concentrations for this assessment.

The MDEQ[14] reported soil lead concentrations from urban parks including Flint. This data set included 12 sample locations from 10 Flint parks. Surface soil samples were collected at 0-2 inches and subsurface samples were collected at 4-6 inches. This dataset may not adequately represent residential soil samples with a lead paint contribution from buildings. Other studies have shown that open spaces may have much lower soil lead concentrations than areas near residential buildings that were built prior to 1978[11,15]. The geometric mean and geometric mean plus two standard deviation surface soil concentrations (see below) from this Flint park dataset were used for this assessment. The geometric mean plus two standard deviation surface soil concentration represents an upper percentile value that may partially account for the higher soil lead levels expected around buildings with lead paint.

Another data source is from soil samples collected from the Rouge River watershed between 1992 and 2002[16]. This dataset was compiled from MDEQ files and Clayton Group Services files for the Rouge River watershed area in southeast Michigan. Although some data is from Part 201 sites of environmental contamination, most of the samples were collected as a result of other regulatory or real estate due diligence requirements. Sites with known industrial metal sources or that had near surface soil with unknown fill material were excluded from the dataset. The dataset included 28 residential sites that had

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[10] Francek, M. A., B. Makimaa, et al. (1994). "Small town lead levels: a case study from the homes of pre-schoolers in Mt. Pleasant, Michigan." Environ Pollut **84**(2): 159-166.
[11] Schwarz, K., S. T. Pickett, et al. (2012). "The effects of the urban built environment on the spatial distribution of lead in residential soils." Environ Pollut **163**: 32-39.
[12] Andra, S. S., D. Sarkar, et al. (2006). "Lead in Soils in Paint Contaminated Residential Sites at San Antonio, Texas, and Baltimore, Maryland." Bulletin of Environmental Contamination and Toxicology **77**(5): 643-650.
[13] Yesilonis, I. D., R. V. Pouyat, et al. (2008). "Spatial distribution of metals in soils in Baltimore, Maryland: role of native parent material, proximity to major roads, housing age and screening guidelines." Environ Pollut **156**(3): 723-731.
[14] "Draft Michigan Urban Park Topsoil Survey 1997, MDEQ" David Slayton, Office of Waste Management and Radiological Protection, MDEQ
[15] Zahran, S., H. W. Mielke, et al. (2013). "Determining the relative importance of soil sample locations to predict risk of child lead exposure." Environ Int **60**: 7-14.
[16] Murray, K. S., D. T. Rogers, et al. (2004). "Heavy metals in an urban watershed in southeastern Michigan." J Environ Qual **33**(1): 163-172.

535 surface soil samples with data reported for lead. Sample depth was 0 – 0.5 meters. The geometric mean value for residential surface soils reported from this study (see below) was used for this assessment.

The current Part 201 residential direct contact risk-based soil level was also used for this assessment for comparison. This value was generated from the IEUBK model using an acceptable blood lead concentration of 10 µg/dL, a drinking water concentration of 4 µg/L (ppb) and an Michigan-specific average air concentration of 0.04 µg/m^3 were used in the model at the time of criteria development.

Soil levels examined in the model runs were:

- 47.5 parts per million (ppm) – based on the geometric mean of 0-2 inch soil concentrations in Flint urban parks.
- 155 ppm – based on the geometric mean + two standard deviations of 0-2 inch soil concentrations in Flint urban parks.
- 160 ppm – based on the geometric mean for residential surface soil (0-0.5 meter) from Rouge River water shed[17].
- 400 ppm - the MDEQ Residential Direct Contact Risk-Based Screening Level for soil.

Both the residential soil geometric mean from the Rouge River watershed and the upper percentile from the Flint park data appear to represent the best surrogates for residential soil concentrations in Flint for this assessment. Although not from Flint, the Rouge River watershed residential soil data appears to be a fairly robust data set for urban residential soils in Michigan. The Flint park data upper percentile (geometric mean plus two standard deviations is approximately equivalent to the 97.5 percentile) may better account for potential building paint contributions to soil concentrations for urban residential soils than the geometric mean concentration of this dataset. The Flint park upper percentile (155 ppm) reported as two significant digits is equivalent to the Rouge River watershed residential soil lead geometric mean (160 ppm). The soil lead concentration of 160 ppm was selected for use in the calculation of the TSG Subcommittee's recommended health-based drinking water lead levels.

Maternal data

Maternal blood lead levels were changed to 0.8 µg/dL to match the NHANES (2011-2012) geometric mean lead level for women[18].

Blood level of concern (cutoff) for risk estimation

A cutoff value of 5 µg/dL was selected as the current Centers for Disease Control and Prevention blood reference level to identify children with blood lead levels that require follow-up actions. It is based on the blood lead level for the 97.5th percentile for the U.S. population of children, ages one to five[19].

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[17] The value is from Table 5 in Murray, K. S., D. T. Rogers, et al. (2004). "Heavy metals in an urban watershed in southeastern Michigan." J Environ Qual **33**(1): 163-172.

[18] The Fourth National Report on Human Exposure to Environmental Chemicals, dated February 2015, can be found at http://www.cdc.gov/biomonitoring/pdf/FourthReport_UpdatedTables_Feb2015.pdf.

Outputs of the modeling runs and recommendation of drinking water lead levels for use during the evaluation of Flint school and daycare drinking water samples

The soil lead level of 160 ppm was selected as being the best surrogate for soil lead levels in the city of Flint. In the event that site-specific soil data is collected, the drinking water lead levels may need to be reevaluated. The entire set of modeling runs and graphs can be found in Attachment 1.

The recommended drinking water lead levels resulted in a 5% risk or lower that a child had a blood lead level above 5 µg/dL. The 5% is an EPA health protection goal for young children exposed to lead at residential properties.

Evaluating school and daycare drinking water samples together

The recommended lead screening level for use while evaluating both school and daycare drinking water samples is 2 µg/L (ppb). This lead level in drinking water samples results in no more than a 5% risk that children age 7 or younger would have blood lead levels above 5 µg/dL.

Age range	Blood lead geometric mean (in micrograms per deciliter [µg/dL])	Risk that a child could have a blood lead level above 5 µg/dL
0-1 year olds	2.308	5.004%
0-7 year olds	2.056	2.934%

Assumptions integral to the use of the health-based school and daycare drinking water lead level
This calculation includes two assumptions. One is that people have lead levels in home drinking water of no more than 1 µg/L (ppb) or are using filters to reduce lead levels to 1 µg/L (ppb) or below. The second is that children do not live in homes with highly elevated levels of lead in home dust or soil. The modeled lead dust levels do not account for lead coming from pre-1978 paint. Eighty-two percent of city of Flint houses were built before 1970[20]. Soil highly impacted with lead paint may have lead levels higher than the 160 ppm used in this calculation. If children are not drinking filtered water at home, are ingesting lead paint chips, or have elevated levels of lead in home dust or soil, a lead level lower than the one recommended above may need to be selected for the evaluation of school and daycare drinking water samples.

Evaluating school and daycare drinking water samples separately

The recommended lead screening level for use while evaluating daycare drinking water samples is

[19] The blood reference level and additional information can be found at http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm.
[20] As determined by the U.S. Census and can be found at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_1YR_S1101&prodType=table.

2 µg/L (ppb). This lead level in drinking water samples results in no more than a 5% risk that children age 1 or younger would have blood lead levels above 5 µg/dL.

Age range	Blood lead geometric mean (in micrograms per deciliter [µg/dL])	Risk that a child could have a blood lead level above 5 µg/dL
0-1 year olds	2.308	5.004%
0-7 year olds	2.056	2.934%

Assumptions integral to the use of the health-based daycare drinking water lead level
This calculation includes two assumptions. One is that people have lead levels in home drinking water of no more than 1 µg/L (ppb) or are using filters to reduce lead levels to 1 µg/L (ppb) or below. The second is that children do not live in homes with highly elevated levels of lead in home dust or soil. The modeled lead dust levels do not account for lead coming from pre-1978 paint. Eighty-two percent of city of Flint houses were built before 1970. Soil highly impacted with lead paint may have lead levels higher than the 160 ppm used in this calculation. If children are not drinking filtered water at home, are ingesting lead paint chips, or have elevated levels of lead in home dust or soil, a lead level lower than the one recommended above may need to be selected for the evaluation of school and daycare drinking water samples.

The recommended lead screening level for use while evaluating K-12 school drinking water samples is 11 µg/L (ppb). This lead level in drinking water samples results in no more than a 5% risk that children age 7 or younger would have blood lead levels above 5 µg/dL. However, when evaluating a population of children age 1 or younger, their risk of having a blood lead level above 5 µg/dL was 8.335%. The 11 µg/L (ppb) screening level is not adequately protective for children under the age of 1.

Age range	Blood lead geometric mean (in micrograms per deciliter [µg/dL])	Risk that a child could have a blood lead level above 5 µg/dL
0-1 year olds	2.61	8.335%
0-7 year olds	2.299	4.917%

Assumptions integral to the use of the health-based school drinking water lead level
This calculation includes two assumptions. One is that people have lead levels in home drinking water of no more than 1 µg/L (ppb) or are using filters to reduce lead levels to 1 µg/L (ppb) or below. The second is that children do not live in homes with highly elevated levels of lead in home dust or soil. The modeled lead dust levels do not account for lead coming from pre-1978 paint. Eighty-two percent of city of Flint houses were built before 1970. Soil highly impacted with lead paint may have lead levels higher than the 160 ppm used in this calculation. If children are not drinking filtered water at home, are ingesting lead paint chips, or have elevated levels of lead in home dust or soil, a lead level lower than the one recommended above may need to be selected for the evaluation of school and daycare drinking water samples.

		0-1 year olds		0-7 year olds	
Soil lead levels (ppm)	Fountain water (ppb)	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL
47.6	0	1.184	0.109	0.92	0.016
155.3	0	2.198	4.014	1.958	2.302
160	0	2.24	4.381	2.002	2.573
400	0	4.268	36.82	4.135	34.306
2000	0	13.431	98.224	14.549	98.847
47.6	1	1.22	0.135	0.949	0.02
155.3	1	2.232	4.306	1.985	2.468
160	1	2.274	4.687	2.029	2.75
400	1	4.298	37.376	4.16	34.772
2000	1	13.447	98.235	14.564	98.954
47.6	2	1.257	0.165	0.977	0.026
155.3	2	2.266	4.609	2.012	2.64
160	2	2.308	5.004	2.056	2.934
400	2	4.327	37.929	4.184	35.236
2000	2	13.464	98.247	14.579	98.86
47.6	3	1.293	0.201	1.006	0.032
155.3	3	2.3	4.923	2.039	2.82
160	3	2.342	5.332	2.083	3.126
400	3	4.357	38.48	4.209	35.699
2000	3	13.48	98.258	14.595	98.867
47.6	4	1.33	0.241	1.034	0.04
155.3	4	2.334	5.248	2.067	3.007
160	4	2.376	5.671	2.11	3.324
400	4	4.386	39.029	4.233	36.161
2000	4	13.496	98.269	14.61	98.874
47.6	5	1.366	0.288	1.063	0.049
155.3	5	2.368	5.585	2.094	3.201
160	5	2.41	6.02	2.138	3.53
400	5	4.416	39.575	4.258	36.622
2000	5	13.513	98.28	14.625	98.88
47.6	6	1.402	0.341	1.091	0.06
155.3	6	2.401	5.932	2.121	3.402
160	6	2.443	6.381	2.165	3.743
400	6	4.445	40.118	4.282	37.082
2000	6	13.529	98.29	14.641	98.887
47.6	7	1.438	0.401	1.12	0.073
155.3	7	2.435	6.289	2.148	3.611
160	7	2.477	6.752	2.192	3.964
400	7	4.474	40.659	4.307	37.54
2000	7	13.545	98.301	14.656	98.893
47.6	8	1.474	0.468	1.148	0.087
155.3	8	2.468	6.658	2.175	3.827
160	8	2.51	7.133	2.219	4.191
400	8	4.504	41.196	4.331	37.997

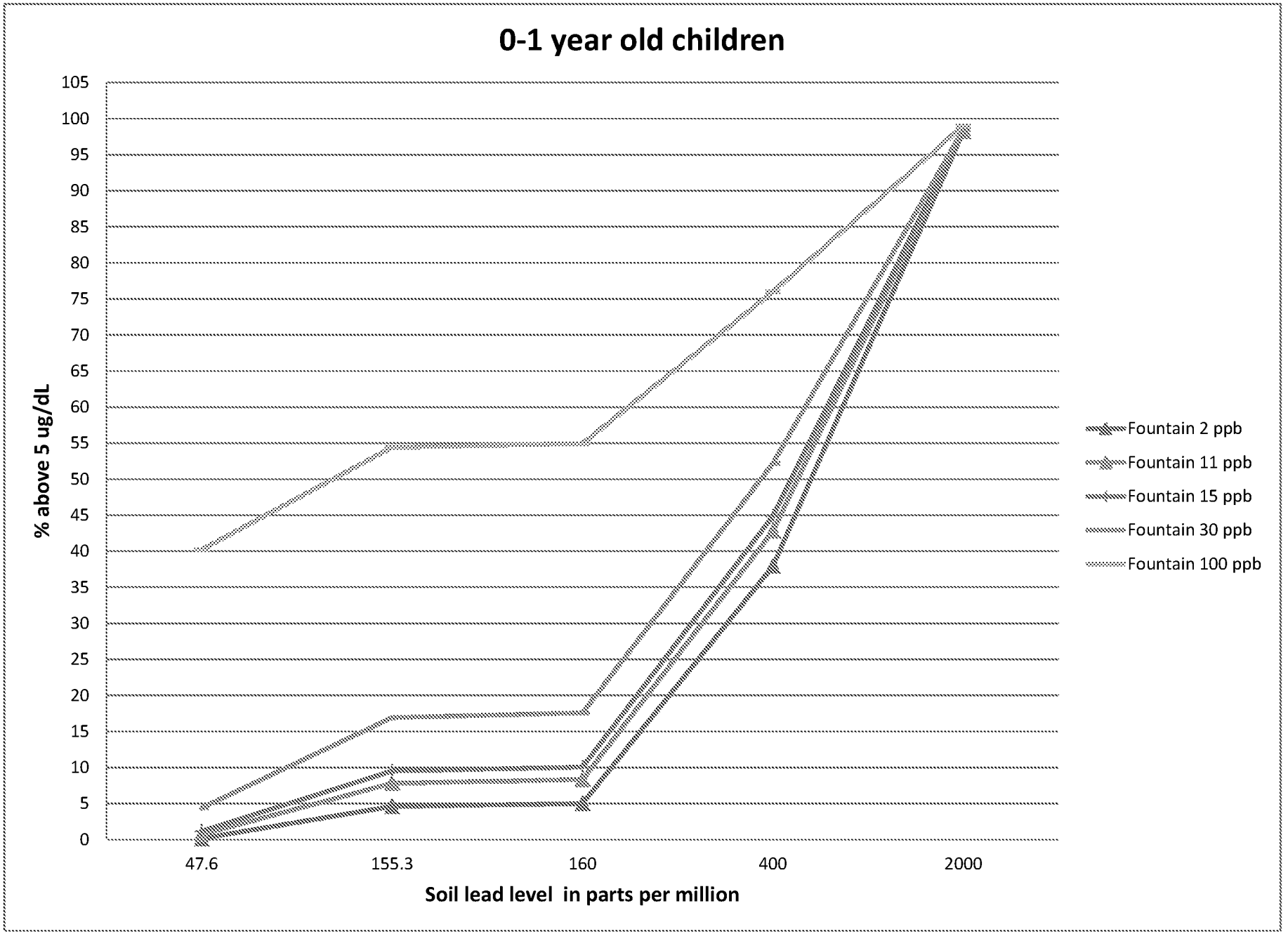
		0-1 year olds		0-7 year olds	
Soil lead levels (ppm)	Fountain water (ppb)	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL
2000	8	13.561	98.312	14.671	98.9
47.6	9	1.51	0.542	1.176	0.104
155.3	9	2.502	7.036	2.202	4.05
160	9	2.544	7.524	2.245	4.426
400	9	4.533	41.731	4.355	38.453
2000	9	13.577	98.323	14.686	98.906
47.6	10	1.546	0.625	1.205	0.123
155.3	10	2.535	7.425	2.229	4.28
160	10	2.577	7.925	2.272	4.668
400	10	4.562	42.263	4.38	38.907
2000	10	13.594	98.333	14.702	98.912
47.6	11	1.581	0.715	1.233	0.145
155.3	11	2.569	7.823	2.256	4.518
160	11	2.61	8.335	2.299	4.917
400	11	4.591	42.792	4.404	39.359
2000	11	13.61	98.344	14.717	98.919
47.6	12	1.617	0.815	1.261	0.169
155.3	12	2.602	8.231	2.283	4.762
160	12	2.643	8.755	2.326	5.174
400	12	4.62	43.317	4.428	39.81
2000	12	13.626	98.354	14.732	98.925
47.6	13	1.652	0.924	1.289	0.197
155.3	13	2.635	8.648	2.309	5.014
160	13	2.677	9.183	2.353	5.437
400	13	4.649	43.84	4.453	40.259
2000	13	13.642	98.364	14.747	98.931
47.6	14	1.688	1.043	1.317	0.227
155.3	14	2.668	9.075	2.336	5.273
160	14	2.71	9.621	2.38	5.707
400	14	4.677	44.359	4.477	40.707
2000	14	13.658	98.374	14.763	98.937
47.6	15	1.723	1.171	1.346	0.261
155.3	15	2.701	9.51	2.363	5.539
160	15	2.743	10.067	2.406	5.984
400	15	4.706	44.875	4.501	41.153
2000	15	13.674	98.385	14.778	98.944
47.6	30	2.243	4.406	1.762	1.325
155.3	30	3.188	16.918	2.76	10.313
160	30	3.228	17.593	2.803	10.908
400	30	5.131	52.202	4.861	47.608
2000	30	13.914	98.528	15.005	99.031
47.6	100	4.451	40.23	3.603	24.294
155.3	100	5.267	54.406	4.521	41.511
160	100	5.302	54.957	4.56	42.227

		0-1 year olds		0-7 year olds	
Soil lead levels (ppm)	Fountain water (ppb)	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL
400	100	6.967	75.99	6.463	70.746
2000	100	14.992	99.026	16.034	99.342

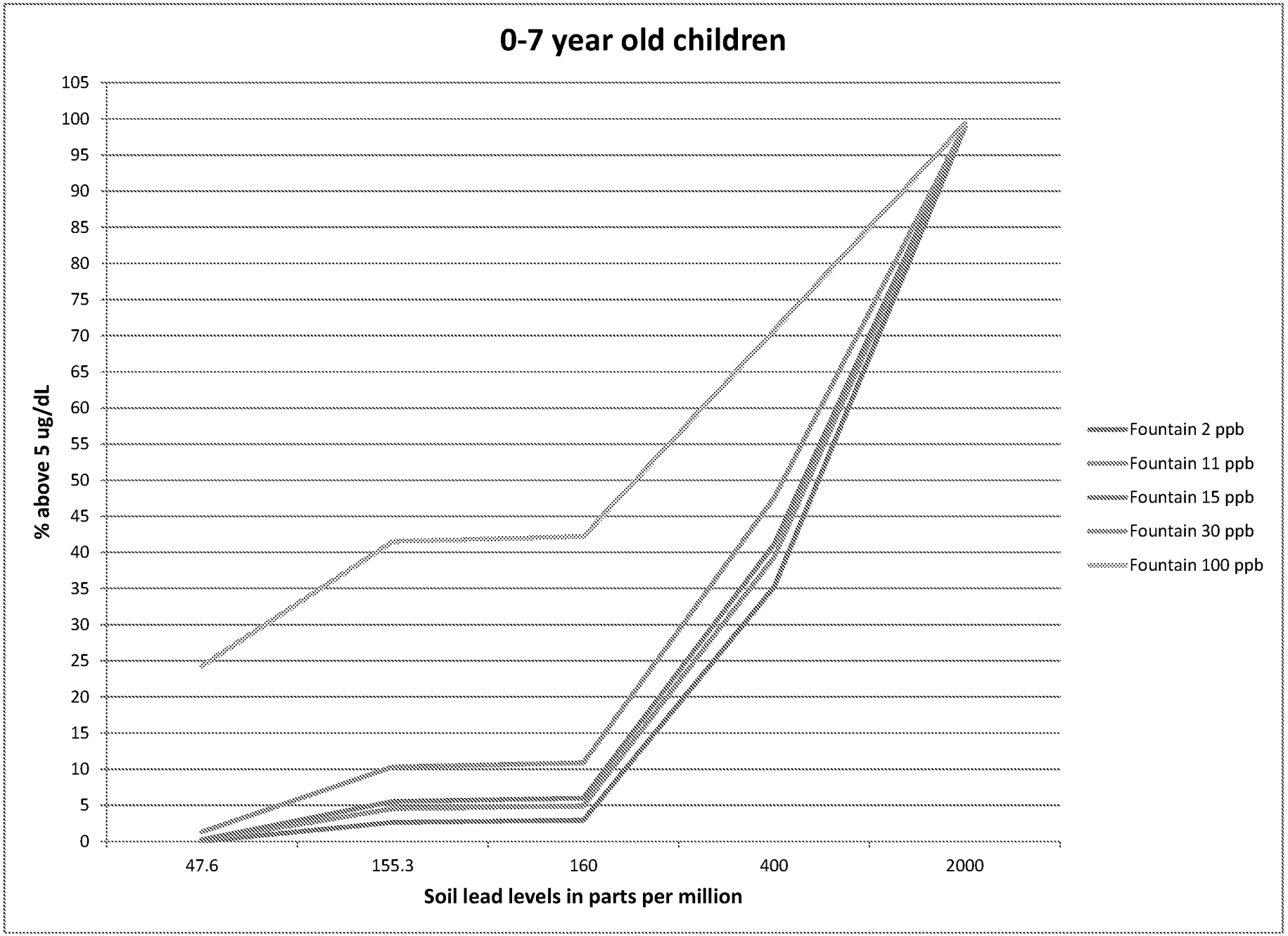
		0-1 year olds		0-7 year olds	
Soil lead levels (ppm)	Fountain water (ppb)	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL
47.6	0	1.184	0.109	0.92	0.016
47.6	1	1.22	0.135	0.949	0.02
47.6	2	1.257	0.165	0.977	0.026
47.6	3	1.293	0.201	1.006	0.032
47.6	4	1.33	0.241	1.034	0.04
47.6	5	1.366	0.288	1.063	0.049
47.6	6	1.402	0.341	1.091	0.06
47.6	7	1.438	0.401	1.12	0.073
47.6	8	1.474	0.468	1.148	0.087
47.6	9	1.51	0.542	1.176	0.104
47.6	10	1.546	0.625	1.205	0.123
47.6	11	1.581	0.715	1.233	0.145
47.6	12	1.617	0.815	1.261	0.169
47.6	13	1.652	0.924	1.289	0.197
47.6	14	1.688	1.043	1.317	0.227
47.6	15	1.723	1.171	1.346	0.261
47.6	30	2.243	4.406	1.762	1.325
47.6	100	4.451	40.23	3.603	24.294
155.3	0	2.198	4.014	1.958	2.302
155.3	1	2.232	4.306	1.985	2.468
155.3	2	2.266	4.609	2.012	2.64
155.3	3	2.3	4.923	2.039	2.82
155.3	4	2.334	5.248	2.067	3.007
155.3	5	2.368	5.585	2.094	3.201
155.3	6	2.401	5.932	2.121	3.402
155.3	7	2.435	6.289	2.148	3.611
155.3	8	2.468	6.658	2.175	3.827
155.3	9	2.502	7.036	2.202	4.05
155.3	10	2.535	7.425	2.229	4.28
155.3	11	2.569	7.823	2.256	4.518
155.3	12	2.602	8.231	2.283	4.762
155.3	13	2.635	8.648	2.309	5.014
155.3	14	2.668	9.075	2.336	5.273
155.3	15	2.701	9.51	2.363	5.539
155.3	30	3.188	16.918	2.76	10.313
155.3	100	5.267	54.406	4.521	41.511
160	0	2.24	4.381	2.002	2.573
160	1	2.274	4.687	2.029	2.75
160	2	2.308	5.004	2.056	2.934
160	3	2.342	5.332	2.083	3.126
160	4	2.376	5.671	2.11	3.324
160	5	2.41	6.02	2.138	3.53
160	6	2.443	6.381	2.165	3.743
160	7	2.477	6.752	2.192	3.964
160	8	2.51	7.133	2.219	4.191
160	9	2.544	7.524	2.245	4.426
160	10	2.577	7.925	2.272	4.668
160	11	2.61	8.335	2.299	4.917
160	12	2.643	8.755	2.326	5.174
160	13	2.677	9.183	2.353	5.437
160	14	2.71	9.621	2.38	5.707
160	15	2.743	10.067	2.406	5.984
160	30	3.228	17.593	2.803	10.908
160	100	5.302	54.957	4.56	42.227

		0-1 year olds		0-7 year olds	
Soil lead levels (ppm)	Fountain water (ppb)	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL	Geometric mean Blood lead level (ug/dL)	%>5 ug/dL
400	0	4.268	36.82	4.135	34.306
400	1	4.298	37.376	4.16	34.772
400	2	4.327	37.929	4.184	35.236
400	3	4.357	38.48	4.209	35.699
400	4	4.386	39.029	4.233	36.161
400	5	4.416	39.575	4.258	36.622
400	6	4.445	40.118	4.282	37.082
400	7	4.474	40.659	4.307	37.54
400	8	4.504	41.196	4.331	37.997
400	9	4.533	41.731	4.355	38.453
400	10	4.562	42.263	4.38	38.907
400	11	4.591	42.792	4.404	39.359
400	12	4.62	43.317	4.428	39.81
400	13	4.649	43.84	4.453	40.259
400	14	4.677	44.359	4.477	40.707
400	15	4.706	44.875	4.501	41.153
400	30	5.131	52.202	4.861	47.608
400	100	6.967	75.99	6.463	70.746
2000	0	13.431	98.224	14.549	98.847
2000	1	13.447	98.235	14.564	98.954
2000	2	13.464	98.247	14.579	98.86
2000	3	13.48	98.258	14.595	98.867
2000	4	13.496	98.269	14.61	98.874
2000	5	13.513	98.28	14.625	98.88
2000	6	13.529	98.29	14.641	98.887
2000	7	13.545	98.301	14.656	98.893
2000	8	13.561	98.312	14.671	98.9
2000	9	13.577	98.323	14.686	98.906
2000	10	13.594	98.333	14.702	98.912
2000	11	13.61	98.344	14.717	98.919
2000	12	13.626	98.354	14.732	98.925
2000	13	13.642	98.364	14.747	98.931
2000	14	13.658	98.374	14.763	98.937
2000	15	13.674	98.385	14.778	98.944
2000	30	13.914	98.528	15.005	99.031
2000	100	14.992	99.026	16.034	99.342

Graph of IEUBK model outputs for selected water lead levels for 0-1 year old children



Graph of IEUBK model outputs for selected water lead levels for 0-7 year old choldren



From: Olszewski, Rosemarie (DEQ)
Sent: Friday, October 30, 2015 2:42 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of October 26, 2015
Attachments: Week of 102615 Flint Water E-Clips.pdf

DEQ e-clips

Week of October 26, 2015

Flint Water Articles

Detroit Free Press: Government messed up in Flint water crisis, what next?
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/10/29/flint-water-crisis-government/74736590/

Detroit News: Column: Don't blame EM for Flint water disaster
http://www.detroitnews.com/story/opinion/2015/10/26/opinion-flint-water-disaster/74657458/

School water seldom tested in urban Michigan districts
http://www.detroitnews.com/story/life/wellness/2015/10/26/school-water/74606636/

MLive: Ex-emergency manager says local leaders made decision to use Flint River water
http://www.mlive.com/news/flint/index.ssf/2015/10/ex-emergency_manager_says_loca.html#incart_river

Legislature, feds should take on Flint water investigation
http://www.mlive.com/opinion/flint/index.ssf/2015/10/flint_water_op-ed_jim_ananich.html#incart_river

State DEQ pulls request for help with image amid Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/10/state_deq_seeks_marketing_stra.html#incart_river

Seven key takeaways from a town hall meeting on Flint's water crisis
http://www.mlive.com/news/flint/index.ssf/2015/10/seven_key_takeaways_from_the_t.html

City Council president: Emergency manager set Flint on path to river water

http://www.mlive.com/opinion/flint/index.ssf/2015/10/city_council_president_emergen.html#incart_river

Michigan DEQ audit expanded to include Flint water response
http://www.mlive.com/lansing-news/index.ssf/2015/10/michigan_deq_audit_expanded_to.html

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of October 26, 2015

Flint Water Articles

Detroit Free Press: Government messed up in Flint water crisis, what next?
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MLive: Ex-emergency manager says local leaders made decision to use Flint River water
http://www.mlive.com/news/flint/index.ssf/2015/10/ex-emergency_manager_says_loca.html#incart_river

Legislature, feds should take on Flint water investigation
http://www.mlive.com/opinion/flint/index.ssf/2015/10/flint_water_op-ed_jim_ananich.html#incart_river

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Seven key takeaways from a town hall meeting on Flint's water crisis
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City Council president: Emergency manager set Flint on path to river water
http://www.mlive.com/opinion/flint/index.ssf/2015/10/city_council_president_emergen.html#incart_river

Michigan DEQ audit expanded to include Flint water response
http://www.mlive.com/lansing-news/index.ssf/2015/10/michigan_deq_audit_expanded_to.html

From:	Pallone, Maggie (DEQ)
Sent:	Monday, November 02, 2015 11:51 AM
To:	Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Sygo, Jim (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Krisztian, George (DEQ)
Cc:	Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ);Butler, Sonya (DEQ)
Subject:	FW: Response from EPA on using SRF for Private Line Replacement
Attachments:	10-6-2015 Response - Kildee.pdf; 100615 SRF for Private Line Replacement (Hedman).pdf

Follow up communication between Kildee and EPA on replacement of lead service lines and the use of SRF dollars. Nothing that hasn't already been clarified to us by Susan and others at EPA, but sending so you have this in your files.

Maggie

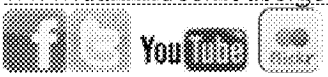
From: Dickinson, Jordan [mailto:Jordan.Dickinson@mail.house.gov]
Sent: Friday, October 30, 2015 5:10 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Subject: Response from EPA on using SRF for Private Line Replacement

Hi Maggie,

Here is the letter we discussed. I look forward to hearing from you next week.

Have a great weekend,

Jordan Dickinson
Legislative Assistant
Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Phone: (202) 225-3611
www.dankildee.house.gov



Sign up for Congressman Dan Kildee's e-newsletter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

OCT 2 8 2015

The Honorable Dan Kildee
House of Representatives
Washington, D.C. 20515

Dear Congressman Kildee:

Thank you for your October 6, 2015, letter asking whether federal law permits a state to use the Drinking Water State Revolving Fund to finance the replacement of privately owned lead water service lines.

Drinking Water State Revolving Fund loans can be used to finance lead service line replacement on public and private property, provided the loans are made to an eligible entity in accordance with the Safe Drinking Water Act to protect public health, and all other Drinking Water State Revolving Fund requirements are met. The eligible entity in this case is the Flint community water system. The U.S. Environmental Protection Agency is actively discussing the option of using the Drinking Water State Revolving Fund for lead service line replacement with the Michigan Department of Environmental Quality and the City of Flint.

Again, thank you for your letter. If you have further questions, please contact me or your staff may contact Cathy Davis in the EPA's Office of Congressional and Intergovernmental Relations at Davis.CatherineM@epa.gov or (202) 564-2703.

Sincerely,

Kenneth J. Kopocis
Deputy Assistant Administrator

October 6, 2015

Administrator Susan Hedman
Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Administrator Hedman:

An independent scientific study recently discovered that the water in my hometown of Flint, MI, contains dangerous levels of lead. I, along with many others, am pursuing a variety of avenues to help address this situation and I wanted to clarify one possible option: It is our understanding that federal law permits states to use Safe Drinking Water State Revolving Funds to finance the replacement of privately owned lead water service lines, is this correct?

I received the attached letter from Michigan Governor Rick Snyder on October 2, 2015, asking for my assistance in regards to this question and I would appreciate further clarification.

Again, thank you for helping to clarify this question as well as exploring all options to ensure the people in Flint have safe drinking water.

Sincerely,

Dan Kildee
MEMBER OF CONGRESS

Debbie Stabenow
U.S. SENATOR

Gary C. Peters
U.S. SENATOR

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, November 06, 2015 3:48 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of November 2, 2015
Attachments: Week of 110215 Flint Water E-Clips.pdf

DEQ e-clips

Week of November 2, 2015

Flint and Other Water Stories

Detroit Free Press: Try every way to get to bottom of Flint water crisis
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/11/05/flint-water-investigation/75162216/

Flint lawmaker wants hearings on water controversy
http://www.freep.com/story/news/politics/2015/11/05/flint-lawmaker-wants-hearings-water-controversy/75224762/

Detroit News: Flint water problems may not be over; DEQ under review
http://www.detroitnews.com/story/news/local/michigan/2015/11/05/flint-water/75205332/

Experts: Water health dangers don't subside in Flint
http://www.detroitnews.com/story/news/politics/2015/11/05/experts-water-health-dangers-subside-flint/75255704/

MLive: U.S. EPA will conduct 'full review' of Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/11/us_epa_tells_kildee_it_will_ca.html#incart_river_mobile_home

New EPA report warns of potential large-scale lead releases in Flint water
http://www.mlive.com/news/flint/index.ssf/2015/11/new_epa_report_warns_of_potent.html#incart_m-rpt-2

Ananich seeks subpoena power in call for legislative hearings on Flint water crisis
http://www.mlive.com/lansing-news/index.ssf/2015/11/ananich_seeks_subpoena_power_i.html

Legislators call for investigation into altered Flint lead report
http://www.mlive.com/news/flint/index.ssf/2015/11/legislators_call_for_investiga.html#incart_river

Full investigation needed at every level in Flint water crisis
http://www.mlive.com/opinion/flint/index.ssf/2015/11/full_investigation_needed_at_e.html#incart_river_home

Flint sending out 1,800 new notices for past-due water bills
http://www.mlive.com/news/flint/index.ssf/2015/11/flint_sending_out_first_discon.html

Michigan Radio: VIDEO: How dropping two of Flint's lead test numbers changed things for the state
http://michiganradio.org/post/video-how-dropping-two-flints-lead-test-numbers-changed-things-state#stream/0

Expert says Michigan officials changed a Flint lead report to avoid federal action
http://michiganradio.org/post/expert-says-michigan-officials-changed-flint-lead-report-avoid-federal-action#stream/0

The Times Herald: Drinking water tests come back safe at Capac, Marysville
http://www.thetimesherald.com/story/news/local/2015/11/02/drinking-water-tests-come-back-safe-capac-marysville/74761110/

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of November 2, 2015

Flint and Other Water Stories

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Experts: Water health dangers don't subside in Flint
http://www.detroitnews.com/story/news/politics/2015/11/05/experts-water-health-dangers-subside-flint/75255704/

MLive: U.S. EPA will conduct 'full review' of Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/11/us_epa_tells_kildee_it_will_ca.html#incart_river_mobile_home

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Michigan Radio: VIDEO: How dropping two of Flint's lead test numbers changed things for the state
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Expert says Michigan officials changed a Flint lead report to avoid federal action
http://michiganradio.org/post/expert-says-michigan-officials-changed-flint-lead-report-avoid-federal-action#stream/0

The Times Herald: Drinking water tests come back safe at Capac, Marysville
http://www.thetimesherald.com/story/news/local/2015/11/02/drinking-water-tests-come-back-safe-capac-marysville/74761110/

From: George <
Sent: Monday, November 09, 2015 6:38 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ)
Subject: Source of high lead levels in drinking water at one Flint school identified | Michigan Radio

FYI

http://michiganradio.org/post/source-high-lead-levels-drinking-water-one-flint-school-identified

Sent from my iPhone

From: Krisztian, George (DEQ)
Sent: Tuesday, November 10, 2015 2:24 PM
To: Sygo, Jim (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Wyant, Dan (DEQ)
Subject: FW: Technical Advisory Team Information

FYI

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Andy Leavitt [mailto:aleavitt@senatedems.org]
Sent: Tuesday, November 10, 2015 2:00 PM
To: Wright, Michael; Howard Croft; Amy Hovey; Anthony Chubb; Brent Wright; Lytle, Darren; Dayne Walling; Deborah Higgins; donna. cole; Dykema, Linda D. (DHHS); Wells, Eden (DHHS); edwardsm; Krisztian, George (DEQ); Gerald (Jed) Natzke; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kevin J. Keane; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Schock, Michael; Mike Lane; Prysby, Mike (DEQ); MVALACAK@gchd.us; Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Sean Kammer; Shawn Patrick McElmurry; Busch, Stephen (DEQ); swalser@senatedems.org; Thompson, Sheryl D. (DHHS); Warren Green
Subject: Re: Technical Advisory Team Information

Hi Howard,

Can you confirm when Flint will move away from the testing mode that includes flushing?

Thanks,

Andy

On Mon, Nov 9, 2015 at 6:20 PM Wright, Michael <Wright.Michael@epa.gov> wrote:

> Howard:
>
> Thanks for arranging the meeting today. I didn't catch all of what Natasha (and others) said on the line but I was intrigued when I heard her mention a fact sheet or some information on Lead that was taken from a city in MA. Can you/she forward that URL for our review and consideration?
>
> During the last call, I also noted my concern regarding boil advisories during a lead emergency and wanted to provide a link that documented what I said about Lead (and nitrates for that matter) being concentrated upon heating.
> http://water.epa.gov/drink/guide/upload/book_waterontap_full.pdf

Lastly, I couldn't hear who made the comment, but I agree that infants are likely the most vulnerable of concern. So, I was wondering if the clinicians/health practitioners in the room might consider partnering or spearheading an outreach effort to target expectant mothers with the Filters that are being provided. Not sure if this is best done via prenatal clinics, delivery hospitals, OB-GYN departments, or lactation management specialists, etc. The public health practitioners might also be able to use this emergency as another reason to advocate breastfeeding (vs infant formula).

Thanks,
Mike

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Friday, November 06, 2015 3:48 PM
To: Amy Hovey <Amy.Hovey@mail.house.gov>; Andy Leavitt <aleavitt@senatedems.org>; Anthony Chubb <achubb@cityofflint.com>; Brent Wright <bwright@cityofflint.com>; Lytle, Darren <Lytle.Darren@epa.gov>; Dayne Walling <dwalling@cityofflint.com>; Deborah Higgins <DeborahC@mottchc.org>; donna. cole <donna.cole@genesys.org>; dykemal <dykemal@mich.gov>; Eden Wells (DHHS) <wellse3@michigan.gov>; edwardsm <edwardsm@vt.edu>; George Krisztian (DEQ) <krisztiang@michigan.gov>; Gerald (Jed) Natzke <gdn2@aol.com>; Howard Croft <hcroft@cityofflint.com>; James Henry <jhenry@gchd.us>; Jamie Gaskin <jgaskin@unitedwaygenesee.org>; Jason Lorenz <jlorenz@cityofflint.com>; jmikewright <jmikewright@yahoo.com>; JoAnne Herman <jherman@genesys.org>; John O'Brien <jfobrien@gcdcwws.com>; Kevin J. Keane <KEVIN.KEANE@cmsenergy.com>; Kirk Smith <ksmith@flint.org>; larry.koehler@mcc.edu; Laura Sullivan <dr.laura2@gmail.com>; Lawrence Reynolds <LawrenceR@mottchc.org>; Lawrence Reynolds <reynolds@mottchc.org>; Michael Glasgow <mglasgow@cityofflint.com>; Schock, Michael <Schock.Michael@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>; Mike Lane <mjlane@umflint.edu>; Mike Prysby (DEQ) <prysbym@michigan.gov>; MVALACAK@gchd.us; Natasha Henderson <nhenderson@cityofflint.com>; Norb Birchmeier <nbirchm1@hurleymc.com>; Pete Levine <plevine@gcms.org>; Robert Bincsik <rbincsik@cityofflint.com>; rosejo@msu.edu; Russell Hudson <Russell.Hudson@mclaren.org>; Samir Matta <SFMatta@lan-inc.com>; Sean Kammer <skammer@cityofflint.com>; Shawn Patrick McElmurry <s.mcelmurry@wayne.edu>; Stephen Busch (DEQ) <BUSCHS@michigan.gov>; swalser@senatedems.org; thompsons2@michigan.gov; Warren Green <jwgreen@lan-inc.com>
Subject: Technical Advisory Team Information

All,

Enclosed please find the weekly update along with the agenda for next weeks Technical Advisory Committee meeting. The time and location remain at City Hall on the 3rd floor at 2:00 pm. There is a conference call in number available and we have modified the speaker system to accommodate all those who call in. If there are any questions, please do not hesitate to contact me.

Dial-in Number: **PPI**

Access Code: PPI

PIN: PPI

Thank you,

--

Howard Croft

Public Works Director

City of Flint

1101 S. Saginaw Street

Flint, MI 48502

PH# 810.766.7135 Ext.2043

hcroft@cityofflint.com

From: Tommasulo, Karen (DEQ)
Sent: Tuesday, November 10, 2015 4:14 PM
To: Sygo, Jim (DEQ);Krisztian, George (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Shaw, Eric (DEQ)
Subject: RE: Technical Advisory Team Information

I think this would be great for the website, but it'd be better if we could post it directly as a PDF. We could link, but EPA updates their site regularly, so links to their pages tend to break pretty quickly. We'd just have to have an agreement with them on when the PDF would come down so they wouldn't feel like there was an outdated version of their pamphlet floating around.

From: Sygo, Jim (DEQ)
Sent: Tuesday, November 10, 2015 8:08 AM
To: Krisztian, George (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Wyant, Dan (DEQ)
Subject: RE: Technical Advisory Team Information

George,
I have a copy

From: Krisztian, George (DEQ)
Sent: Tuesday, November 10, 2015 7:13 AM
To: Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Sygo, Jim (DEQ); Wyant, Dan (DEQ)
Subject: FW: Technical Advisory Team Information

Please see the link below. This is a rather comprehensive (albeit not completely up to date in places) description of water issues that is written in relatively easy to understand language.

Is this something that we should post a link to on our water site? Or perhaps ask EPA if we can post it directly? This is clearly an EPA publication so if we get permission to post it there is no chance of plagiarism.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph **PPI**

From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Monday, November 09, 2015 6:21 PM
To: Howard Croft; Amy Hovey; Andy Leavitt; Anthony Chubb; Brent Wright; Lytle, Darren; Dayne Walling; Deborah Higgins; donna. cole; Dykema, Linda D. (DHHS); Wells, Eden (DHHS); edwardsm; Krisztian, George (DEQ); Gerald (Jed) Natzke; James Henry; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kevin J. Keane; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Lawrence Reynolds; Lawrence Reynolds; Michael Glasgow; Schock, Michael; Mike Lane; Prysby, Mike (DEQ); MVALACAK@gchd.us; Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Sean Kammer; Shawn Patrick McElmurry; Busch, Stephen (DEQ); swalser@senatedems.org; Thompson, Sheryl D. (DHHS); Warren Green
Subject: RE: Technical Advisory Team Information

Howard:
Thanks for arranging the meeting today. I didn't catch all of what Natasha (and others) said on the line but I was intrigued when I heard her mention a fact sheet or some information on Lead that was taken from a city in MA. Can you/she forward that URL for our review and consideration?

During the last call, I also noted my concern regarding boil advisories during a lead emergency and wanted to provide a link that documented what I said about Lead (and nitrates for that matter) being concentrated upon heating.
http://water.epa.gov/drink/guide/upload/book_waterontap_full.pdf

Lastly, I couldn't hear who made the comment, but I agree that infants are likely the most vulnerable of concern. So, I was wondering if the clinicians/health practitioners in the room might consider partnering or spearheading an outreach effort to target expectant mothers with the Filters that are being provided. Not sure if this is best done via prenatal clinics, delivery hospitals, OB-GYN departments, or lactation management specialists, etc. The public health practitioners might also be able to use this emergency as another reason to advocate breastfeeding (vs infant formula).
Thanks,
Mike

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Friday, November 06, 2015 3:48 PM
To: Amy Hovey <Amy.Hovey@mail.house.gov>; Andy Leavitt <aleavitt@senatedems.org>; Anthony Chubb <achubb@cityofflint.com>; Brent Wright <bwright@cityofflint.com>; Lytle, Darren <Lytle.Darren@epa.gov>; Dayne Walling <dwalling@cityofflint.com>; Deborah Higgins <DeborahC@mottchc.org>; donna. cole <donna.cole@genesys.org>; dykemal <dykemal@mich.gov>; Eden Wells (DHHS) <wellse3@michigan.gov>; edwardsm <edwardsm@vt.edu>; George Krisztian (DEQ) <krisztiang@michigan.gov>; Gerald (Jed) Natzke <gdn2@aol.com>; Howard Croft <hcroft@cityofflint.com>; James Henry <jhenry@gchd.us>; Jamie Gaskin <jgaskin@unitedwaygenesee.org>; Jason Lorenz <jlorenz@cityofflint.com>; jmikewright <jmikewright@yahoo.com>; JoAnne Herman <jherman@genesys.org>; John O'Brien <jfobrien@gcdcwws.com>; Kevin J. Keane <KEVIN.KEANE@cmsenergy.com>; Kirk Smith <ksmith@flint.org>; larry.koehler@mcc.edu; Laura Sullivan <dr.laura2@gmail.com>; Lawrence Reynolds <LawrenceR@mottchc.org>; Lawrence Reynolds <reynolds@mottchc.org>; Michael Glasgow <mglasgow@cityofflint.com>; Schock, Michael <Schock.Michael@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>; Mike Lane <milane@umflint.edu>; Mike Prysby (DEQ) <prysbym@michigan.gov>; MVALACAK@gchd.us; Natasha Henderson <nhenderson@cityofflint.com>; Norb Birchmeier <nbirchm1@hurleymc.com>; Pete Levine <plevine@gcms.org>; Robert Bincsik <rbincsik@cityofflint.com>; rosejo@msu.edu; Russell Hudson <Russell.Hudson@mclaren.org>; Samir Matta <SFMatta@lan-inc.com>; Sean Kammer <skammer@cityofflint.com>; Shawn Patrick McElmurry <s.mcelmurry@wayne.edu>; Stephen Busch (DEQ) <BUSCHS@michigan.gov>; swalser@senatedems.org; thompsons2@michigan.gov; Warren Green <jwgreen@lan-inc.com>
Subject: Technical Advisory Team Information

All,

Enclosed please find the weekly update along with the agenda for next weeks Technical Advisory Committee meeting. The time and location remain at City Hall on the 3rd floor at 2:00 pm. There is a conference call in number available and we have modified the speaker system to accommodate all those who call in. If there are any questions, please do not hesitate to contact me.

Dial-in Number: **PPI**
Access Code: **PPI**

PIN: **PPI**

Thank you,
--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Krisztian, George (DEQ)
Sent: Friday, November 13, 2015 6:34 AM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Subject: Fwd: TAC_Request for Input

FYI

Sent from my iPhone

Begin forwarded message:

From: "Wright, Michael" <Wright.Michael@epa.gov>
Date: November 12, 2015 at 7:12:41 PM EST
To: Howard Croft <hcroft@cityofflint.com>, Amy Hovey <Amy.Hovey@mail.house.gov>, Andy Leavitt <aleavitt@senatedems.org>, "Anthony Chubb" <achubb@cityofflint.com>, Brent Wright <bwright@cityofflint.com>, "Lytle, Darren" <Lytle.Darren@epa.gov>, Dayne Walling <dwalling@cityofflint.com>, Deborah Higgins <DeborahC@mottchc.org>, "donna. cole" <donna.cole@genesys.org>, dykemal <dykemal@mich.gov>, "Eden Wells (DHHS)" <wellse3@michigan.gov>, edwardsm <edwardsm@vt.edu>, "George Krisztian (DEQ)" <krisztiang@michigan.gov>, "Gerald (Jed) Natzke" <gdn2@aol.com>, "James Henry" <jhenry@gchd.us>, Jamie Gaskin <jgaskin@unitedwaygenesee.org>, "Jason Lorenz" <jlorenz@cityofflint.com>, jmikewright <jmikewright@yahoo.com>, "JoAnne Herman" <jherman@genesys.org>, John O'Brien <jfobrien@gcdcwws.com>, "Kevin J. Keane" <KEVIN.KEANE@cmsenergy.com>, Kirk Smith <ksmith@flint.org>, "larry.koehler@mcc.edu" <larry.koehler@mcc.edu>, Laura Sullivan <dr.laura2@gmail.com>, Lawrence Reynolds <LawrenceR@mottchc.org>, "Lawrence Reynolds" <reynolds@mottchc.org>, Michael Glasgow <mglasgow@cityofflint.com>, "Schock, Michael" <Schock.Michael@epa.gov>, "Mike Lane" <mjlane@umflint.edu>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, "MVALACAK@gchd.us" <MVALACAK@gchd.us>, Natasha Henderson <nhenderson@cityofflint.com>, Norb Birchmeier <nbirchm1@hurleymc.com>, "Pete Levine" <plevine@gcms.org>, Robert Bincsik <rbincsik@cityofflint.com>, "rosejo@msu.edu" <rosejo@msu.edu>, Russell Hudson <Russell.Hudson@mclaren.org>, Samir Matta <SFMatta@lan-inc.com>, Sean Kammer <skammer@cityofflint.com>, Shawn Patrick McElmurry <s.mcelmurry@wayne.edu>, "Stephen Busch (DEQ)" <BUSCHS@michigan.gov>, "swalser@senatedems.org" <swalser@senatedems.org>, "thompsons2@michigan.gov" <thompsons2@michigan.gov>, Warren Green <jwgreen@lan-inc.com>
Subject: RE: TAC_Request for Input

Howard
This looks fine to me, although I'm not sure how effective question 4c will be to the end users of the data, since "any kind of additive" is unclear to me. Is this intended to capture point of use (POU) filtration devices that use activated carbon like Brita faucet mounted filters? If so, I'd encourage you to put language specific to what the public will understand (brand names usually do the trick). My past understanding is that some POU devices will have varying levels of effectiveness at lead removal and that this may even be dependent on the type of device (faucet-mounted device vs pitcher-style). I'm just not up on the literature, nor did I get a chance to review NSF ratings for Lead removal, including the ones that are being passed out in Flint. The long and short of it, if they are effective at Lead removal,

then it might fairly accurately represent a typical concentration (when filter properly maintained), but may not capture if other sinks used for water consumption, etc. So, it may not reflect what is coming out of similar (faucet-mounted) unfiltered residential samples with comparable piping.

Mike

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, November 11, 2015 12:14 PM
To: Amy Hovey <Amy.Hovey@mail.house.gov>; Andy Leavitt <aleavitt@senatedems.org>; Anthony Chubb <achubb@cityofflint.com>; Brent Wright <bwright@cityofflint.com>; Lytle, Darren <Lytle.Darren@epa.gov>; Dayne Walling <dwalling@cityofflint.com>; Deborah Higgins <DeborahC@mottchc.org>; donna. cole <donna.cole@genesys.org>; dykemal <dykemal@mich.gov>; Eden Wells (DHHS) <wellse3@michigan.gov>; edwardsm <edwardsm@vt.edu>; George Krisztian (DEQ) <krisztiang@michigan.gov>; Gerald (Jed) Natzke <gdn2@aol.com>; Howard Croft <hcroft@cityofflint.com>; James Henry <jhenry@gchd.us>; Jamie Gaskin <jgaskin@unitedwaygenesee.org>; Jason Lorenz <jlorenz@cityofflint.com>; jmikewright <jmikewright@yahoo.com>; JoAnne Herman <jherman@genesys.org>; John O'Brien <jfobrien@gcdcwws.com>; Kevin J. Keane <KEVIN.KEANE@cmsenergy.com>; Kirk Smith <ksmith@flint.org>; larry.koehler@mcc.edu; Laura Sullivan <dr.laura2@gmail.com>; Lawrence Reynolds <LawrenceR@mottchc.org>; Lawrence Reynolds <reynolds@mottchc.org>; Michael Glasgow <mglasgow@cityofflint.com>; Schock, Michael <Schock.Michael@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>; Mike Lane <mjlane@umflint.edu>; Mike Prysby (DEQ) <prysbym@michigan.gov>; MVALACAK@gchd.us; Natasha Henderson <nhenderson@cityofflint.com>; Norb Birchmeier <nbirchm1@hurleymc.com>; Pete Levine <plevine@gcms.org>; Robert Bincsik <rbincsik@cityofflint.com>; rosejo@msu.edu; Russell Hudson <Russell.Hudson@mclaren.org>; Samir Matta <SFMatta@lan-inc.com>; Sean Kammer <skammer@cityofflint.com>; Shawn Patrick McElmurry <s.mcelmurry@wayne.edu>; Stephen Busch (DEQ) <BUSCHS@michigan.gov>; swalser@senatedems.org; thompsons2@michigan.gov; Warren Green <jwgreen@lan-inc.com>
Subject: TAC_Request for Input

Advisory Team,

Given the holiday scheduling, we are looking at Wednesday December 9th at 2:00 as the best opportunity to hold our next Advisory meeting. Please provide us with feedback on whether or not this is a convenient time for you to attend, we will give priority to our EPA partners in the final scheduling of the meeting.

I am also including a copy of our new NO FLUSH instructions that are now on all of our test bottles being distributed along with a draft copy of a letter that we plan to send to all residents that have been tested under the previous protocol. We will wait for comments on the letter prior to distributing it publicly.

We now have our City Hall lobby Information window staffed along with two screens. One screen will display information on water, filters, and testing, the other will display a video sent to us that demonstrates installation procedures with different filters.

Thank you,

--
Howard Croft
Public Works Director

City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Olszewski, Rosemarie (DEQ)
Sent: Monday, November 16, 2015 9:01 AM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of November 9, 2015

DEQ e-clips

Week of November 9, 2015

Flint and Other Water Stories

ABC12: DEQ says lead exposure at Freeman Elementary limited to fixtures within the school
http://www.abc12.com/home/headlines/DEQ-says-lead-exposure-at-Freeman-Elementary-limited-to-fixtures-within-the-school-344018552.html?device=phone&c=y

CBSDetroit: State Urges Water Tests At Flint Homes, Businesses, Schools
http://detroit.cbslocal.com/2015/11/10/state-urges-water-tests-at-flint-homes-businesses-schools/

MLive: Flint students can be tested for lead after toxic levels found in schools
http://www.mlive.com/news/flint/index.ssf/2015/11/education_program_to_provide_t.html#incart_river

Michigan Radio: Source of high lead levels in drinking water at one Flint school identified
http://michiganradio.org/post/source-high-lead-levels-drinking-water-one-flint-school-identified#stream/0

U.S. EPA will audit Michigan safe drinking water program, in wake of Flint's problems
http://michiganradio.org/post/us-epa-will-audit-michigan-safe-drinking-water-program-wake-flints-problems

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality

Ph: *517-284-6700*
Fax: *517-241-7401*
Email: olszewskir@michigan.gov

From: Kuhl, Richard (AG)
Sent: Monday, November 16, 2015 9:14 AM
To: Shekter Smith, Liane (DEQ);Bettenhausen, Margaret (AG)
Cc: Devereaux, Tracy Jo (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Benzie, Richard (DEQ);Prysby, Mike (DEQ);Busch, Stephen (DEQ);Philip, Kris (DEQ);Sygo, Jim (DEQ);Wyant, Dan (DEQ);Anderson, Madhu (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Krisztian, George (DEQ)

Attorney-Client Privilege

Richard

Richard S. Kuhl
Assistant Attorney General
Environment, Natural Resources,
and Agriculture Division
6th Floor, G. Mennen Williams Building
525 West Ottawa Street
P.O. Box 30755
Lansing, MI 48909

PH: (517) 335-0696
FX: (517) 373-1610

kuhlr@michigan.gov

From: Shekter Smith, Liane (DEQ)
Sent: Saturday, November 14, 2015 4:41 PM
To: Kuhl, Richard (AG) <KuhlR@michigan.gov>; Bettenhausen, Margaret (AG) <BettenhausenM@michigan.gov>
Cc: Devereaux, Tracy Jo (DEQ) <DEVEREAUXT@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Shaler, Karen (DEQ) <SHALERK@michigan.gov>; Benzie, Richard (DEQ) <BENZIER@michigan.gov>; Prysby, Mike (DEQ) <PRYSBYM@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>; Philip, Kris (DEQ) <PHILIPK@michigan.gov>; Sygo, Jim (DEQ) <SygoJ@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Anderson, Madhu (DEQ) <AndersonM30@michigan.gov>; Tommasulo, Karen (DEQ) <TommasuloK@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Krisztian, George (DEQ) <krisztiang@michigan.gov>

Attorney-Client Privilege

Liane

From: Shekter Smith, Liane (DEQ)
Sent: Saturday, November 14, 2015 2:46 PM
To: Kuhl, Richard (AG); Bettenhausen, Margaret (AG); Sygo, Jim (DEQ); Krisztian, George (DEQ); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Anderson, Madhu (DEQ); Wyant, Dan (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ); Philip, Kris (DEQ)

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)
Sent: Friday, November 13, 2015 6:03 PM
To: Kuhl, Richard (AG); Bettenhausen, Margaret (AG); Sygo, Jim (DEQ); Krisztian, George (DEQ); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Anderson, Madhu (DEQ); Wyant, Dan (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ); Shekter Smith, Liane (DEQ)

Attorney-Client Privilege

From: Saxton, Thomas (Treasury)
Sent: Monday, November 16, 2015 10:03 AM
To: Redford, James (GOV);Weber, Travis (GOV)
Cc: Muchmore, Dennis (GOV);Clement, Elizabeth (GOV);Murray, David (GOV);Khouri, Nick (TREASURY);Sampson, Jeremy (TREASURY);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Wurfel, Sara (GOV)
Subject: RE: FYI first class action for the water crisis
Attachments: FW: Safe Drinking Water Act Notice of Intent to Sue

... another fyi (see attached)

From: Redford, James (GOV)
Sent: Monday, November 16, 2015 6:31 AM
To: Saxton, Thomas (Treasury) <SaxtonT@michigan.gov>
Cc: Muchmore, Dennis (GOV) <muchmored@michigan.gov>; Clement, Elizabeth (GOV) <clemente@michigan.gov>; Murray, David (GOV) <MurrayD1@michigan.gov>; Khouri, Nick (TREASURY) <KhouriN@michigan.gov>; Sampson, Jeremy (TREASURY) <SampsonJ@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Wurfel, Sara (GOV) <Wurfels@michigan.gov>
Subject: Re: FYI first class action for the water crisis

I have Travis Webber checking this morning to see if any filings.

Jim

Sent from my iPhone

On Nov 16, 2015, at 6:01 AM, Saxton, Thomas (Treasury) <SaxtonT@michigan.gov> wrote:

> I may have it missed it the press this weekend but apparently there is a class action lawsuit in the works re Flint water.
>
> Begin forwarded message:
>
> **From:** Darnell Earley <darnell.earley@detroitk12.org>
> **Date:** November 14, 2015 at 12:24:39 PM EST
> **To:** Thomas Saxton <saxtont@michigan.gov>, headenf <headenf@michigan.gov>, stantont <stantont@michigan.gov>
> **Subject: Fwd: FYI first class action for the water crisis**
>
> Okay...here we go!!
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> **From:** "Reising, William" <WReising@plunkettcooney.com>
> **Date:** November 14, 2015 at 10:29:33 AM EST
> **To:** "Mr. Darnell Earley" <darnell.earley@detroitk12.org>
> **Subject: Fwd: FYI first class action for the water crisis**
>
> FYI. Filed 11-13. Federal Court/Detroit. Good draw for judge. You can assume that you will be served with the complaint in the near future.
>
> Begin forwarded message:

From: "Szymczak, Richard" <RSzymczak@plunkettcooney.com>
Date: November 14, 2015 at 8:32:15 AM EST
To: "Reising, William" <WReising@plunkettcooney.com>
Subject: FYI first class action for the water crisis

Melisa Mays, individually and as next friend of three minor children; Jacqueline Pemberton; Keith John Pemberton; Elnora Carthan; Rhonda Kelso, individually and as next friend of one minor child, all on behalf of themselves and a class of all others similarly situated v. Governor Rick Snyder; State of Michigan; Daniel Wyant; Liane Shekter Smith; Adam Rosenthal; Stephen Busch; Patrick Cook; Michael Prysby; Bradley Wurfel; Darnell Earley; Gerald Ambrose; Dayne Walling; Howard Croft; Michael Glasgow; Daugherty Johnson; City of Flint 11/13/2015 2:15 cv 14002 O'Meara (Detroit)	Class action for declaratory relief. Plaintiffs seek compensation for exposure to toxic tap water pulled from the Flint River after repeated assurances from the defendants the water was properly treated and monitored. Plaintiffs drank water with high levels of copper and lead that caused neurological injury as well as physical effects. Download	Michael Pitt Pitt McGehee

The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and location.

Richard G. Szymczak
(810) 342-7007
RSzymczak@plunkettcooney.com

ATTORNEYS & COUNSELORS AT LAW

Plaza One Financial Center
111 East Court Street, Suite 1B Flint, MI 48502 Flint, MI 48502
T: (810) 232-5100 • F: (810) 232-3159 • plunkettcooney.com

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From: Headen, Frederick (Treasury)
Sent: Monday, November 16, 2015 8:59 AM
To: Saxton, Thomas (Treasury);Workman, Wayne (TREASURY)
Subject: FW: Safe Drinking Water Act Notice of Intent to Sue
Attachments: 2015-11-16-SDWA-Notice of Intent to Sue-Flint-FINAL.PDF

FYI.

From: Chaudhary, Dimple [mailto:dchaudhary@nrdc.org]
Sent: Monday, November 16, 2015 8:43 AM
To: mayor@cityofflint.com; contactmichigan@state.mi.us; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Khouri, Nick (TREASURY) <KhouriN@michigan.gov>; Headen, Frederick (Treasury) <HeadenF@michigan.gov>; drmcghee@skillman.org; president@kettering.edu; b.walkergriffea@mcc.edu; blarkin@flintandgenesee.org; nhenderson@cityofflint.com
Cc: Michael J. Steinberg (msteinberg@aclumich.org) <msteinberg@aclumich.org>
Subject: Safe Drinking Water Act Notice of Intent to Sue

Attached please find a Notice of Intent to sue under the Safe Drinking Water Act for failure to control lead in drinking water in Flint, Michigan, and failure to assist Michigan schools with lead testing and remediation. We have also sent you the Notice and a CD of exhibits today by certified mail, return receipt requested.

Best regards,

Dimple Chaudhary

Dimple Chaudhary, Senior Attorney*
Natural Resources Defense Council
1152 15th Street NW, Suite 300, Washington, DC 20005
Tel. 202.289.2385 | email: dchaudhary@nrdc.org

*admitted in the District of Columbia and New York

PRIVILEGE AND CONFIDENTIALITY NOTICE
This message is intended only for the addressee and may contain information that is privileged, confidential, and exempt from disclosure under law. If you are not the intended recipient, please notify me immediately by email and delete the original message.

November 16, 2015

By Certified Mail, Return Receipt Requested

City of Flint
Attn: Mayor Karen Williams Weaver
1101 South Saginaw Street
Flint, MI 48502
mayor@cityofflint.com

Governor Rick Snyder
P.O. Box 30013
Lansing, MI 48909
contactmichigan@state.mi.us

Director Dan Wyant
Michigan Department of Environmental Quality
Constitution Hall
525 West Allegan Street
P.O. Box 30473
Lansing, MI 48909-7973
WyantD@michigan.gov

Treasurer Nick A. Khouri
Michigan Department of Treasury
Richard H. Austin Building
430 West Allegan Street
Lansing, MI 48922
KhouriN@michigan.gov

RTAB Chairperson Frederick Headen
Flint City Hall
1101 South Saginaw Street
Flint, MI 48502
HeadenF@michigan.gov

RTAB Member Brian Larkin
Flint City Hall
1101 South Saginaw Street
Flint, MI 48502
blarkin@flintandgenessee.org

RTAB Member David McGhee
Flint City Hall
1101 South Saginaw Street
Flint, MI 48502
drmcghee@skillman.org

RTAB Member Robert McMahan
Flint City Hall
1101 South Saginaw Street
Flint, MI 48502
president@kettering.edu

RTAB Member Beverly Walker-Griffea
Flint City Hall
1101 South Saginaw Street
Flint, MI 48502
b.walkergriffea@mcc.edu

City Administrator Natasha Henderson
Flint City Hall
1101 South Saginaw Street
Flint, MI 48502
nhenderson@cityofflint.com

Re: Notice of Intent to Sue Under the Safe Drinking Water Act, 42 U.S.C. § 300j-8(b)(1)(a), for Failure to Control Lead in Drinking Water in Flint, Michigan, and Failure to Assist Michigan Schools with Lead Testing and Remediation

We write on behalf of Concerned Pastors for Social Action, Melissa Mays, the American Civil Liberties Union of Michigan (ACLU of Michigan), and the Natural

Resources Defense Council (NRDC), nonprofit citizens' organizations and individuals working to secure safe drinking water for the residents of Flint, Michigan. Since April 2014, the City of Flint and Michigan state officials have failed to monitor and control for lead in Flint's drinking water, and to maintain a program to assist Michigan schools with lead testing and remediation, in violation of the Safe Drinking Water Act, 42 U.S.C. § 300f et seq. This letter provides notice pursuant to 42 U.S.C. § 300j-8(b)(1)(a) that we intend to sue the City of Flint; Rick Snyder, Governor of Michigan; Dan Wyant, Director of Michigan Department of Environmental Quality; Nick A. Khouri, Treasurer of Michigan; Frederick Headen, Chairperson of the Flint Receivership Transition Advisory Board (Board); Brian Larkin, David McGhee, Robert McMahan, and Beverly Walker-Griffea, Members, RTAB; and Natasha Henderson, Flint City Administrator, if these violations are not remedied within sixty days.[1]

Concerned Pastors for Social Action is an association of religious leaders from more than thirty churches and ministries in the Flint area that has advocated for the rights of the underserved for nearly fifty years. Melissa Mays is a Flint resident whose family has suffered from serious health problems as a result of the City's failure to provide safe drinking water. The ACLU of Michigan works in courts, legislatures, and communities to preserve the protections that our laws guarantee to all citizens. NRDC is a national membership organization committed to protecting public health and the environment and to reducing the exposure of all communities to toxic chemicals. These groups and individuals continue to be harmed by the violations of the Safe Drinking Water Act by the City and Michigan state officials, detailed below.

I. City and State officials have exposed and continue to expose Flint residents to dangerous amounts of lead in drinking water

A. The City, Emergency Manager, and State Treasurer chose the Flint River as a primary drinking-water source

In the fall of 2011, Michigan Governor Rick Snyder declared a financial emergency in the City of Flint and appointed an emergency manager to take control of the City's operations and finances.[2] Flint Mayor Dayne Walling and the City Council were stripped of all authority except as specifically allowed by the Emergency Manager, and the City was placed in state receivership.[3] Under Michigan's Local Financial Stability and Choice Act, an

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[1] These individuals are noticed in their official capacities.

[2] *See* Mich. Comp. Laws § 141.1549; Letter from Gov. Rick Snyder to Mayor Dayne Walling and Flint City Council (Nov. 8, 2011), http://www.michigan.gov/documents/treasury/Flint-GovernorsDetermination-11-8-11_417435_7.pdf (attached as Ex. 1); Dawson Bell, *Governor names Flint native as city's emergency financial manager*, Detroit Free Press, Nov. 30, 2011, http://www.freep.com/article/20111130/NEWS06/111300370/Governor-names-Flint-native-city-s-emergency-financial-manager (attached as Ex. 2).

[3] Mich. Comp. Laws § 141.1549(2).

Emergency Manager has "broad powers" to "rectify the financial emergency and to assure fiscal accountability of the local government."[4]

While under control of the Emergency Manager, the City faced decisions about the future of its drinking-water supply. For fifty years, the City had purchased drinking water from the Detroit Water and Sewerage Department (Detroit), which sources water from Lake Huron.[5] In response to rising water rates charged by Detroit, in March 2013, the City Council voted to join the Karegnondi Water Authority (KWA), a newly formed municipal water supply system. The KWA was planning to build a pipeline to distribute water directly from Lake Huron to mid-Michigan communities, including Genesee County, where Flint is located.[6] The City Council's vote did not become effective until several weeks later, after both the Emergency Manager and State Treasurer approved the decision.[7]

The City's contract with Detroit was set to expire in April 2014, at least eighteen months before the KWA pipeline was scheduled to be completed.[8] Faced with a year-and-a-half gap in the City's water supply, the Emergency Manager declined to negotiate a short-term contract with Detroit and decided instead to use the Flint River as a primary drinking-water source.[9] The City had previously explored—and rejected—the Flint River as a primary drinking-water source. This is because the Flint Water Treatment Plant would have required fifty million dollars in upgrades to treat the river water and "produce finished water in conformance with the current federal and state drinking water regulations."[10]

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[4] *Id.*

[5] *See* Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live, Apr. 25, 2014, http://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html (attached as Ex. 3).

[6] Steve Carmody, *Flint opting to get its future tap water from Lake Huron*, Michigan Radio, Mar. 25, 2013, http://michiganradio.org/post/flint-opting-get-its-future-tap-water-lake-huron#stream/ (attached as Ex. 4); Karegnondi Water Authority, About, http://www.karegnondi.com/#!about/c20r9 (last visited Nov. 13, 2015) (attached as Ex. 5).

[7] *See* Mich. Comp. Laws § 141.1552(1)(g), (3); Emergency Manager, Resolution to Purchase Capacity from Karegnondi Water Authority (adopted Mar. 29, 2013) (attached as Ex. 6); Letter from Andy Dillon, State Treasurer, to Edward Kurtz, Emergency Manager (Apr. 11, 2013) (authorizing Emergency Manager to enter into contract with KWA) (attached as Ex. 7).

[8] Sarah Schuch, *KWA pipeline work continues as Flint water lead concerns rise*, Michigan Live, Sept. 25, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/kwa_pipeline_projected_to_be_c.html (attached as Ex. 8); *see* Ron Fonger, *Detroit gives notice: It's terminating water contract covering Flint, Genesee County in one year*, Michigan Live, Apr. 19, 2013, http://www.mlive.com/news/flint/index.ssf/2013/04/detroit_gives_notice_its_termi.html (attached as Ex. 9).

[9] Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Dep't (Mar. 7, 2014) (explaining that the City "has actively pursued using the Flint River as a temporary water source" instead of accepting Detroit's offer to provide water to the City) (attached as Ex. 10).

[10] Cost of Service Study (2011), Appendix 8 to Analysis of the Flint River as a Permanent Water Supply for the City of Flint, http://www.scribd.com/doc/64382181/Analysis-of-the-Flint-River-as-a-Permanent-Water-Supply-for-the-City-of-Flint-July-2011-Appendices-1-to-8 (attached as Ex. 11);

Under the Safe Drinking Water Act's Lead and Copper Rule, Flint's water system could not use the Flint River as a water source without first obtaining approval from the Michigan Department of Environmental Quality (MDEQ). The Lead and Copper Rule required MDEQ to approve both the City's proposed addition of a new water source (the Flint River) and the long-term change in water treatment (from treatment through Detroit's water plant to treatment at the Flint Water Treatment Plant).[11] In April 2014, MDEQ approved the switch to river water.[12] The City immediately began pumping Flint River water through the City's distribution pipes and into residents' taps.

B. Dangerous lead contamination results from the City's switch to river water

In the twenty months following the switch in water sources, residents' drinking water has been at times cloudy, discolored, and foul-smelling.[13] Residents reported that they have experienced hair loss, skin rashes, and vomiting after drinking the water.[14] In the summer of 2014, the City was forced to issue several boil-water notices after tap water tested positive for total coliform bacteria.[15] The City's subsequent treatment of the water to kill disease-carrying pathogens resulted in elevated levels of total trihalomethanes, a disinfection byproduct that can cause serious health problems, including an increased risk of cancer.[16]

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see also Kristin Longley, *Water pipeline v. Flint River: City of Flint studying its drinking water options*, Michigan Live, Jan. 22, 2011, http://www.mlive.com/news/flint/index.ssf/2011/01/water_pipeline_vs_flint_river.html (attached as Ex. 12); Dominic Adams, *Flint River now an option for drinking water following Detroit's termination of contract*, Michigan Live, July 23, 2013, http://www.mlive.com/news/flint/index.ssf/2013/07/city_readying_water_plant_to_t.html (quoting city officials' explanation for rejecting use of Flint River: "upgrades to Flint's water plant would be too expensive, the river didn't provide enough capacity to serve Flint residents' water needs and the Michigan Department of Environmental Quality would not allow it") (attached as Ex. 13).

[11] 40 C.F.R. § 141.90(a)(3); *see also id.* § 141.81(a)-(b).

[12] *See* Adams, *Closing the valve on history*, *supra* note 5 (Ex. 3).

[13] *See* Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People's Skin to Erupt in Rashes and Hair to Fall Out*, The Nation, July 16, 2015, http://www.thenation.com/article/in-flint-michigan-overpriced-water-is-causing-peoples-skin-to-erupt-and-hair-to-fall-out/ (attached as Ex. 14); Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post, July 10, 2015, http://www.huffingtonpost.com/wenonah-hauter/flints-brown-water-blues_b_7765132.html (attached as Ex. 15).

[14] Laura Gottesdiener, *Flint, Mich., residents find state water control hard to swallow*, Al Jazeera America, Apr. 3, 2015, http://america.aljazeera.com/articles/2015/4/3/flint-residents-find-state-water-control-hard-to-swallow.html (attached as Ex. 16).

[15] Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live, Sept. 5, 2014, http://www.mlive.com/news/flint/index.ssf/2014/09/flint_issues_boil_water_adviso.html (attached as Ex. 17).

[16] Robin Erb, *Who wants to drink Flint's water?*, Detroit Free Press, Jan. 23, 2015, http://www.freep.com/story/news/local/michigan/2015/01/22/water-woes-latest-hit-flint/22193291/ (attached as Ex. 18); Mich. Dep't of Envtl. Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014) (attached as Ex. 19); U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water, http://water.epa.gov/drink/contaminants/basicinform

Because Flint River water is also highly corrosive, dangerous amounts of lead began to leach out of pipes and into the City's drinking water.[17] Lead in drinking water occurs primarily from corrosion of pipes and other plumbing materials that contain lead or lead solder.[18] The Lead and Copper Rule requires water systems to manage lead levels by controlling corrosion, which is often accomplished by adding corrosion-inhibiting chemicals.[19] Water systems must implement and maintain an "optimal" corrosion-control treatment program that "minimizes the lead . . . concentrations at users' taps."[20]

Flint did not consider how to control the corrosivity of the river water before switching water sources, nor did MDEQ require the City to implement any corrosion-control measures. Rather, beginning in April 2014, the City did not use any form of treatment to control corrosion.[21] The City waited until after its residents were drinking the river water to assess whether it posed a risk of increased lead exposure. MDEQ endorsed this approach. In June 2014, Flint's water system initiated the first of two six-month monitoring periods to test tap water for lead under the Lead and Copper Rule; the second six-month period ran from January to June 2015.[22] During these monitoring periods, the water system used flawed testing methods that appear to have been designed to underreport the lead content of residents' drinking water.[23]

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ation/disinfectionbyproducts.cfm (last updated Dec. 13, 2013) (attached as Ex. 20); *see also* 40 C.F.R. § 141.64(b).

[17] Marc Edwards, *Test Update: Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015), http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/ (attached as Ex. 21); Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015), http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/ (attached as Ex. 22). The river water is so corrosive that in October 2014, a local GM engine plant decided to switch back to Lake Huron water to avoid damage to equipment at the plant from corrosion. Brianna Owczarzak, *GM says no to Flint water*, WNEM, Oct. 14, 2014, http://www.wnem.com/story/26785625/gm-says-no-to-flint-water (attached as Ex. 23).

[18] *See* Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper, 56 Fed. Reg. 26,460, 26,464 (June 7, 1991).

[19] *See* 40 C.F.R. § 141.82.

[20] *Id.* §§ 141.2; 141.80(d).

[21] *See* Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015) (attached as Ex. 24).

[22] *See* 40 C.F.R. § 141.86; Email from Pat Cook, *supra* note 21 (Ex. 24).

[23] *See infra* pp. 11-13.

Flint's monitoring data showed that some residents' water contained lead at concentrations above the federal "action level" of 15 parts per billion (ppb).[24] These high lead levels put residents at risk of a broad array of serious, irreversible health effects, including cognitive impairment, kidney damage, and increased blood pressure.[25] When the Environmental Protection Agency (EPA) learned of these high lead sampling results in February 2015, it notified MDEQ officials that the sampling results raised significant concerns about corrosion from lead pipes in Flint's distribution system.[26] Nonetheless, throughout the monitoring periods, the City and MDEQ maintained that these high lead levels were isolated and that the data, taken together, demonstrated Flint's compliance with the Lead and Copper Rule.[27]

C. Community advocacy and independent testing prompt long past due response from City and State officials

As the City concluded its second six-month round of sampling in July 2015, and notified some Flint residents of elevated lead levels in their tap water, the community became increasingly concerned. A small coalition of local groups, including Water You Fighting For and Concerned Pastors for Social Action, began working with researchers at Virginia Tech to conduct their own lead sampling of Flint's water. The Virginia Tech scientists found that ten percent of the more than 250 samples collected from Flint residences had lead levels of 25 ppb or more, well above the federal action level for lead.[28] Several samples exceeded 100 ppb, and one sample exceeded 1000 ppb.[29] Though aware of

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[24] *See* Mich. Dep't of Envtl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015) (showing six samples with lead levels over the action level) (attached as Ex. 25); 40 C.F.R. § 141.80(c)(1).

[25] *See, e.g.*, U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013) (attached as Ex. 26); U.S. EPA, Basic Information About Lead in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm (last updated June 26, 2015) (explaining that "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development," and that "[a]dults who drink this water over many years could develop kidney problems or high blood pressure") (attached as Ex. 27); *see also* National Ambient Air Quality Standards for Lead, 80 Fed. Reg. 278, 290 (Jan. 5, 2015).

[26] *See, e.g.*, Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015) (attached as Ex. 28).

[27] *See* Nancy Kaffer, *MDEQ e-mails show stunning indifference to Flint peril*, Detroit Free Press, Oct. 22, 2015, http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/10/21/indifference-characterized-state-approach-flint-water/74289430/ (attached as Ex. 29).

[28] *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study, Sept. 16, 2015, http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/ (attached as Ex. 30); Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live, Sept. 15, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html (attached as Ex. 31).

[29] Marc Edwards et al., *Lead testing results for water sampled by residents,* Flint Water Study, Sept. 28, 2015, http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/ (attached as Ex. 32).

the Virginia Tech sampling results, MDEQ officials continued to insist that Flint's water was safe to drink.[30]

In September 2015, a medical study conducted by a local pediatrician confirmed the kinds of adverse health impacts that residents had voiced concern about for months: the rate of Flint children with elevated blood lead levels had nearly doubled since the City changed its drinking-water source.[31] State officials and the Governor reacted by "downplay[ing] and in some cases attempt[ing] to discredit" the pediatrician's findings, and dismissing citizen concerns as "near-hysteri[cal]."[32]

Subsequent testing by MDEQ revealed that at least four schools in Flint had lead levels in their drinking water above the federal action level.[33] At Freeman Elementary School, water tested had lead levels over 100 ppb, more than six times the federal action level.[34] This increase in lead exposure is particularly dangerous in Flint, a community where residents are already at higher risk of elevated blood lead levels and lead poisoning. Michigan ranks fifth worst in the country for harmful exposures to lead.[35] Low income is a risk factor for lead poisoning, and more than a third of families in Flint live below the poverty level, three times the national average.[36] Children in Flint also face high risk of lead

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[30] Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live, Sept. 10, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html (attached as Ex. 33).

[31] *Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community* (PowerPoint Presentation) (presented on Sept. 24, 2015), *available at* http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/ (attached as Ex. 34).

[32] *Study suggests Flint's water causing increased lead poisoning*, Michigan Radio, Sept. 28, 2015, http://michiganradio.org/post/study-suggests-flints-water-causing-increased-lead-poisoning#stream/0 (attached as Ex. 35); Ron Fonger, *State says data shows no link to Flint River, elevated lead in blood,* Michigan Live, Sept. 24, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/state_says_its_data_shows_no_c.html (attached as Ex. 36); *Did this Michigan Town Poison its Children?*, U.S. News & World Report, Sept. 24, 2015, http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood (attached as Ex. 37).

[33] Steve Carmody, *Four Flint schools have high lead levels in their water*, Michigan Radio, Oct. 8, 2015, http://michiganradio.org/post/four-flint-schools-have-high-lead-levels-their-water (attached as Ex. 38).

[34] *Id.*

[35] Ctrs. for Disease Control & Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013), http://www.cdc.gov/nceh/information/healthy_homes_lead.htm (attached as Ex. 39).

[36] 2009-2013 American Community Survey 5-Year Estimates, 2013, *available at* http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml (enter "Flint, MI" in the box under "Community Facts," click on "Income" on left-side bar, then click "Selected Economic Characteristics" under "2013 American Community Survey") (table attached as Ex. 40 compares data from Flint, Michigan, to Michigan and the United States).

exposure from lead-paint dust, as nearly ninety percent of Flint's housing stock was built before 1978 (when the federal ban on high-lead paint went into effect).[37]

Finally, in late September 2015, the City abandoned its assertions that Flint's drinking water was safe. Nearly seven months after the City first saw dangerously high levels of lead in some residents' water, Flint issued a drinking-water advisory and called for state financial assistance to switch the water system back to Detroit's supply.[38] Two weeks later, Governor Snyder requested six million dollars from the state legislature to reconnect the Flint water system to Detroit.[39] With additional funding from the City and a private foundation, the switch was completed in mid-October.[40]

Following the switch back to Detroit water, some government officials began to ask questions about what went wrong in the course of Flint's change in water sources.[41] Governor Snyder created a task force to review water management and testing in Flint,[42] and EPA established its own task force "to provide the Agency's technical expertise through regular conversations" with the City and MDEQ.[43] Governor Snyder has also announced

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[37] *2012 Annual Data Report on Blood Lead Levels of Children in Michigan* 26 (Apr. 30, 2013), https://www.michigan.gov/documents/mdch/2012AnnualDataReportOnBloodLeadLevels_419508_7.pdf (attached as Ex. 41); Am. Cancer Soc'y, *Lead, Lead in the Environment,* http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/lead (last updated May 27, 2014) (explaining that lead paint is a "major" source of exposure) (attached as Ex. 42); Maj. Thomas F. Zimmerman, *The Regulation of Lead-Based Paint in Air Force Housing,* 44 A.F. L. Rev. 169, 174-75 (1998).

[38] *City of Flint Issues Lead Advisory*, City of Flint, Sept. 25, 2015, https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/ (attached as Ex. 43); Steve Carmody, *Flint officials exploring return to Detroit water*, Michigan Radio, Sept. 28, 2015, http://michiganradio.org/post/flint-officials-exploring-return-detroit-water#stream/0 (attached as Ex. 44).

[39] John Wisely, *Snyder announces $12 million plan to fix Flint water*, Detroit Free Press, Oct. 8, 2015, http://www.freep.com/story/news/local/michigan/2015/10/08/snyder-flint-water-reconnect/73567778/ (attached as Ex. 45).

[40] Amanda Emery, *Flint reconnects to Detroit water, may take 3 weeks to clear all pipes*, Michigan Live, Oct. 16, 2015, http://www.mlive.com/news/flint/index.ssf/2015/10/flint_reconnecting_to_detroit.html (attached as Ex. 46).

[41] *E.g.*, Letter from Sen. Jim Ananich, Mich. Senate Minority Leader, to Susan Hedman, U.S. EPA, and Gina McCarthy, U.S. EPA (Oct. 21, 2015) (attached as Ex. 47); Letter from Rep. Daniel Kildee, U.S. Congressman, to Gina McCarthy, U.S. EPA (Oct. 21, 2015) (attached as Ex. 48).

[42] Press Release, Gov. Rick Snyder, *Gov. Rick Snyder announces Flint Water Task Force to review state, federal and municipal actions, offer recommendations* (Oct. 21, 2015), http://www.michigan.gov/snyder/0,4668,7-277-57577_57657-367761--,00.html (attached as Ex. 49).

[43] Press Release, U.S. EPA, *EPA Establishes Safe Drinking Water Task Force to Provide Technical Expertise to MDEQ and City of Flint* (Oct. 16, 2015), http://yosemite.epa.gov/opa/admpress.nsf/0/A92DE629DB86E66685257EE000579593 (attached as Ex. 50).

plans to launch an "education campaign soon to help schools statewide learn how to get their water tested" for lead.[44]

Despite this proliferation of task forces and campaigns, neither the City nor MDEQ has announced changes in the City's lead monitoring practices in the wake of Flint's public-health crisis. Rather, Flint and MDEQ have maintained that these practices are accurate and adequate, despite the near certainty that they are underrepresenting lead contamination in many of Flint's high-risk homes.

II. City and State officials are in violation of the Safe Drinking Water Act's Lead and Copper Rule

The Safe Drinking Water Act (the Act) authorizes citizens to sue any governmental entity "who is alleged to be in violation of any requirement" under the statute.[45] These requirements include the national primary drinking-water regulations for lead and copper set forth in the Lead and Copper Rule.[46] The Lead and Copper Rule obligates water systems to monitor and control for lead in drinking water.[47]

Since April 2014, Flint's water system has failed to comply with the Lead and Copper Rule's requirements for monitoring water for lead, notifying the public of tap-water monitoring results, reporting monitoring results to MDEQ, and controlling corrosion from lead pipes.[48] These violations systematically result in the City's underestimating lead levels in its drinking water, masking a public-health crisis. The violations are ongoing and likely to recur in the future: Flint's water system presently is obligated to monitor for lead every six months, and there is no indication that Flint has changed or disavowed its inadequate approach to monitoring.[49]

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[44] *See* Lori Higgins, *Michigan to launch lead education effort statewide*, Detroit Free Press, Oct. 13, 2015, http://www.freep.com/story/news/local/michigan/2015/10/13/lead-water-flint-michigan-testing/73871480/ (attached as Ex. 51).

[45] 42 U.S.C. § 300j-8(a)(1).

[46] *See id.* § 300g-1(b)(1)(A); 40 C.F.R. § 141.80(a)(1).

[47] *See, e.g.*, 40 C.F.R. § 141.86.

[48] Flint's water system is subject to the requirements of the Lead and Copper Rule because it is a "community water system" not otherwise exempted from the regulations. 40 C.F.R. §§ 141.80(a)(1), 141.2.

[49] *See Tamaska v. City of Bluff City*, 26 F. App'x 482, 485 (6th Cir. 2002) (citing *Chesapeake Bay Found. v. Gwaltney of Smithfield*, 844 F.2d 170, 171–72 (4th Cir.1988)). A water system is required to monitor tap water for lead every six months if it (1) exceeds the action level for any monitoring period, or (2) "fails to operate at or above the minimum value or within the range of values for the water quality parameters specified by the State … for more than 9 days in any six-month period." 40 C.F.R. § 141.86(d)(4)(vi)(B). Flint's water system failed to maintain applicable values of orthophosphate and/or pH designated as the optimal water quality parameters by MDEQ. In addition, had the water system conducted monitoring in compliance with the Lead and Copper Rule during the January to June 2015 period, it likely would have exceeded the lead action level.

Under the Act, a "supplier of water" is "any person who owns or operates a public water system."[50] The City of Flint owns Flint's water system.[51] Upon information and belief, the State officials administering Flint's receivership and the City presently operate Flint's water system. As discussed above, Flint's Emergency Manager exercised the authority of the local government in the place of Flint's mayor and city council. The Emergency Manager managed the water system and conducted its affairs, including making the decision to use the Flint River as a primary drinking-water source.[52] In April 2015, Governor Snyder removed the Emergency Manager and appointed a Receivership Transition Advisory Board to oversee the City's affairs until the receivership is terminated.[53] The Board has control over the City's budget, and must approve all decisions adopted by the City Council.[54] The Michigan Local Financial Stability and Choice Act requires the State Treasurer to sit on a receivership transition advisory board for any municipality for which the governor appoints such a board, and Governor Snyder has appointed the State Treasurer (or his designee) to chair Flint's Board.[55] The City Administrator reports to the Board, manages the City's daily administrative operations, and directs City department heads in carrying out the daily activities of the City.[56] To date, the City remains in receivership, and its actions remain subject to approval of the Board.[57]

Accordingly, the City of Flint; Governor Snyder; Dan Wyant, Director of MDEQ; Nick A. Khouri, Treasurer of Michigan; Frederick Headen, Chairperson of the Flint Receivership Transition Advisory Board; Brian Larkin, David McGhee, Robert McMahan,

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[50] 42 U.S.C. § 300f(5).

[51] *See* City of Flint, Water System Update, Sept. 2015, https://www.cityofflint.com/wp-content/uploads/City-Council-Water-Presentation-9-14-2015.pdf (attached as Ex. 52).

[52] *See United States v. Twp. of Brighton*, 153 F.3d 307, 314 (6th Cir. 1998) (defining "operator" for purposes of CERCLA as an entity that "performed some affirmative acts," such as "directing the workings, managing, or conducting the affairs" of a facility) (internal quotation marks and alterations omitted); *cf. United States v. Alisal Water Corp.*, 114 F. Supp. 2d 927, 938 (N.D. Cal. 2000) (applying case law discussing CERCLA "operator" liability to the Safe Drinking Water Act context).

[53] Mich. Comp. Laws § 141.1563(1); Press Release, Gov. Rick Snyder, *Gov. Rick Snyder: City of Flint ready to move forward as financial emergency resolved*, Apr. 29, 2015, http://www.michigan.gov/snyder/0,4668,7-277-57577_57657-353433--,00.html (attached as Ex. 53); Emergency Manager Order 20 ¶¶ 4.a.6, 4.a.7 (adopted Apr. 25, 2015), https://www.cityofflint.com/wp-content/uploads/Order-No.-20.pdf (attached as Ex. 54).

[54] Emergency Manager Order 20 ¶¶ 4.a.6, 4.a.7, *supra* note 53 (Ex. 54).

[55] *See* Mich. Comp. Laws § 141.1563(2); Letter from Gov. Rick Snyder to Hon. Ruth Johnson, Mich. Sec'y of State (Apr. 29, 2015), http://michigan.gov/documents/treasury/Flint_RTAB_Appointments_488251_7.pdf (attached as Ex. 55).

[56] Emergency Manager Order 3 ¶¶ 4-6, 25 (adopted Apr. 10, 2015), https://www.cityofflint.com/wp-content/uploads/Order-No.-3.pdf (attached as Ex. 56). The City Administrator was appointed by the Emergency Manager and can be removed only with the Board's consent.

[57] *Id.*

and Beverly Walker-Griffea, Members of the Board; and Natasha Henderson, Flint City Administrator, are responsible for the violations of the Act by Flint's water system which have endangered and will continue to endanger the health of Flint's residents.

A. Flint's water system is in violation of the Lead and Copper Rule's tap-water monitoring, reporting, and notification requirements

The Lead and Copper Rule requires water systems to identify a pool of sampling sites prior to the commencement of a monitoring period.[58] This requirement is designed to target residences at high risk of lead contamination in drinking water, such as homes served by lead service lines.[59] In violation of the Rule, Flint's water system does not select sampling sites for lead monitoring based on a pre-established sampling pool. For Flint's most recent completed monitoring period, January–June 2015, the Director of the City's Department of Public Works admitted that Flint "thr[ew] bottles out everywhere just to collect as many [samples] as we can, to try and hit our number."[60] Similarly, email correspondence shows that the City has, during several monitoring periods, asked its own employees to submit tap-water samples, without regard to whether the employees were part of a pre-selected sampling pool.[61]

Under the Lead and Copper Rule, water systems that contain lead service lines also must draw fifty percent of their tap-water samples from sites served by a lead service line.[62] Flint's water system does not comply with this requirement. The water system reported to MDEQ that all the sample sites it used during the January–June 2015 monitoring period were residences served by lead service lines.[63] Flint's Utilities Administrator, however, admitted that he was not able to verify that all homes sampled were served by lead service lines.[64] This is because City records concerning the locations of lead service lines in the distribution system are stored on 45,000 paper notecards. Flint began converting these notecards into an electronic spreadsheet this fall, well after the January–June 2015 monitoring period.[65]

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[58] *See* 40 C.F.R. § 141.86(a).

[59] *Id.*

[60] *See* ACLU of Michigan, *Thirst for Truth: Who's to Blame for Flint Water Crisis?*, https://www.youtube.com/watch?t=9&v=LTO9irD2f0Y (posted Sept. 23, 2015).

[61] Email from Michael Glasgow, Flint Utilities Adm'r, to Flint municipal staff (June 1, 2015) (attached as Ex. 57).

[62] 40 C.F.R. § 141.86(a)(8).

[63] *See, e.g.*, City of Flint, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (July 28, 2015) [hereinafter July 28 Report] (attached as Ex. 58).

[64] *See* ACLU of Michigan, *Thirst for Truth: Who's to Blame for Flint Water Crisis?*, *supra* note 60.

[65] *See* Ron Fonger, *Flint data on lead water lines stored on 45,000 index cards*, Michigan Live, Oct. 1, 2015, http://www.mlive.com/news/flint/index.ssf/2015/10/flint_official_says_data_on_lo.html (attached as Ex. 59).

Flint's water system has also failed to sample the same sites across monitoring periods or document the reasons for declining to sample the same sites, as the Lead and Copper Rule requires.[66] Sampling new sites from one monitoring period to the next is permitted only if a site "is no longer accessible" to the water system or "no longer fits the requirements of a priority site."[67] Records show that in the January–June 2015 monitoring period, Flint's water system retested only thirteen of the one hundred sites it sampled in the previous monitoring period.[68] It did not provide the required explanation for these departures from the previous monitoring period's sampling sites.[69] Upon information and belief, Flint's water system concentrated its monitoring in areas where it anticipated low lead levels, due to recent infrastructure improvements, and selectively retested sites that had previously yielded low lead levels. Such selective sampling violates the Lead and Copper Rule's intention that water systems "do not use only those sampling locations with the lowest lead or copper levels."[70]

Flint's instructions to residents for the collection of tap-water samples also violate the Lead and Copper Rule. The Rule allows residents to collect the tap-water samples used to monitor lead in drinking water, so long as the water system instructs residents of the sampling procedures required by the regulations.[71] Tap-water samples must be "first-draw samples," meaning that the sample must be collected after water in the tap has stood motionless in the plumbing system for at least six hours.[72] Flint's instructions direct residents to flush their taps for five minutes prior to letting the water sit for the six required hours. This "pre-flushing" has been shown to "result in the minimization of lead capture and significant underestimation of lead levels in drinking water."[73] The water system's pre-flush instruction "negates the intent of the [Lead and Copper Rule] to collect compliance

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[66] 40 C.F.R. § 141.86(b)(4).

[67] U.S. EPA, *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems* 25 (Mar. 2010), http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/upload/Revised-Lead-and-Copper-Rule-Monitoring-and-Reporting-Guidance-for-Public-Water-Systems.pdf (attached as Ex. 60).

[68] *See* July 28 Report, *supra* note 63 (reporting that the same sample sites were not used) (Ex. 58); *see also* Curt Guyette, *Lead Astray: An ACLU of Michigan investigation has found a stream of irregularities in Flint's water tests*, Michigan Democracy Watch Blog, Sept. 14, 2015, http://aclumich.org/democracywatch/index.php/entry/lead-astray-an-aclu-of-michigan-investigation-has-found-a-stream-of-irregularities-in-flint-s-water-tests (attached as Ex. 61).

[69] 40 C.F.R. § 141.90(a)(1)(v).

[70] U.S. EPA, *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems*, *supra* note 67, at 25 (Ex. 60).

[71] 40 C.F.R. § 141.86(b)(2).

[72] *Id.* §§ 141.2, 141.86(b)(2).

[73] Mem. from Miguel Del Toral, U.S. EPA, to Thomas Poy, U.S. EPA, at 2 (June 24, 2015) (attached as Ex. 62).

samples under 'worst-case' conditions,"[74] and goes "against the intent of the monitoring protocol, since it changes the normal water use of the homeowners in the sample."[75]

Flint's water system is violating the Lead and Copper Rule's reporting requirements by representing to MDEQ that Flint's monitoring practices are in compliance with the Rule. The City's water system did not provide documentation to MDEQ justifying its selection of new sample sites in the January–June 2015 monitoring period, and, upon information and belief, is not accurately reporting information concerning whether sampled sites meet required regulatory criteria.[76]

The Lead and Copper Rule also requires Flint's water system to notify each resident whose tap water was sampled of the lead results.[77] Upon information and belief, Flint has failed and continues to fail to properly notify all residents whose tap water was tested for lead of the individual monitoring results.

B. Flint's water system has failed to maintain optimal corrosion-control treatment

The Lead and Copper Rule required all large public water systems, including Flint's water system, to install an "optimal corrosion control treatment" program by January 1, 1997.[78] After a system has optimized its corrosion-control treatment, the regulations require the system to "continue to operate and maintain optimal corrosion control treatment."[79] Since April 2014, Flint's water system has not maintained an optimal corrosion-control treatment program. Historically, the water system complied with the corrosion-control requirements by purchasing treated water from Detroit. When Flint switched its water source to the Flint River in April 2014, it did nothing to treat the Flint River water to control corrosion. This failure to maintain optimized corrosion control violates the Lead and Copper Rule.

Although Flint's water system has resumed its purchase of treated water from Detroit, it has not disavowed its erroneous interpretation of the Lead and Copper Rule's corrosion-control requirements. Nor has it committed to maintaining optimized corrosion control when it switches water sources again this summer to the KWA pipeline. Flint's water system's failure to maintain an optimized corrosion-control treatment program is likely to recur in the future.

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[74] *Id.*

[75] Letter from Cynthia Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008) (attached as Ex. 63).

[76] *See* 40 C.F.R. § 191.90(a)(1)(i), (a)(1)(v); *supra* pp. 11-12.

[77] 40 C.F.R. § 141.85(d)(1).

[78] *Id.* § 141.81(d)(4).

[79] *Id.* § 141.82(g).

III. The State of Michigan's failure to maintain a schools testing and remediation program violates the Safe Drinking Water Act

The Act requires each state to establish a program "to assist" schools and day care centers in "testing for, and remedying, lead contamination in drinking water."[80] Test results must be made available at schools, with notification to parents and teachers.[81] Michigan, upon information and belief, does not maintain a program for school lead testing, remediation, and notification.[82] Accordingly, Governor Snyder and MDEQ Director Wyant are presently in violation of the Act's schools provision.[83]

IV. Intent to Sue

The City of Flint and Michigan state officials have been and continue to be in violation of the Lead and Copper Rule's requirements for monitoring and sampling tap water for lead, notifying the public of and reporting to the State tap-water monitoring results, and corrosion control. Governor Snyder and MDEQ Director Dan Wyant are in violation of the Act's requirement to maintain a program to assist Michigan schools with testing and remediating lead in school drinking water. These violations are likely to continue and to recur in the future absent a judicial decree ordering City and State officials to comply with the Act. If the City of Flint and the Michigan state officials identified above fail to cure their noncompliance with the Act within sixty days, Concerned Pastors for Social Action, Melissa Mays, ACLU of Michigan, and NRDC will file suit in federal district court seeking declaratory relief, injunctive relief, and litigation costs, as appropriate.

The name, address, and telephone number of each person giving notice pursuant to this letter are:

Concerned Pastors for Social Action
2200 Forrest Hill
Flint, MI 48504
(810) 394-6787
Attention: Pastor Allen Overton

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[80] 42 U.S.C. § 300j-24(d)(1).

[81] *Id.* § 300j-24(d)(2).

[82] Although MDEQ recently announced "an education campaign" to help Michigan schools learn how to test their water for lead, MDEQ has yet to release the details of this effort, including whether it will offer the kind of assistance with testing, remediation, and notification contemplated by the Safe Drinking Water Act. *See* Higgins, *Michigan to launch lead education effort statewide*, *supra* note 44 (Ex. 51).

[83] MDEQ has primary enforcement authority in Michigan for the Safe Drinking Water Act. *See* MDEQ, Drinking Water, http://www.michigan.gov/deq/0,4561,7-135-3313_3675---,00.html (last visited Nov. 13, 2015) (attached as Ex. 64).

Melissa Mays
3714 Beecher Road
Flint, MI 48503

American Civil Liberties Union of Michigan
2966 Woodward Avenue
Detroit, MI 48103
(313) 578-6814
Attention: Michael Steinberg

Natural Resources Defense Council
1152 15th Street, NW, Suite 300
Washington, DC 20005
(202) 289-2385
Attention: Dimple Chaudhary

Do not hesitate to contact us if you would like to discuss this matter.

Respectfully,

Dimple Chaudhary
Natural Resources Defense Council
1152 15th Street, NW, Suite 300
Washington, DC 20005
(202) 289-2385

Sarah Tallman
Anjali Waikar
Evan Feinauer
Natural Resources Defense Council
20 North Wacker Drive, Suite 1600
Chicago, IL 60606
(312) 651-7918

Counsel for Concerned Pastors for Social Action, Melissa Mays, and Natural Resources Defense Council

Michael Steinberg
Brooke Tucker
American Civil Liberties Union of Michigan
2966 Woodward Avenue
Detroit, MI 48103
(313) 578-6814

Counsel for American Civil Liberties Union of Michigan

Enclosure

cc:

Administrator Gina McCarthy
U.S. EPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Mail Code: 1101A
Washington, DC 20460
McCarthy.gina@Epa.gov

Regional Administrator Susan Hedman
U.S. EPA Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604
Hedman.susan@Epa.gov

Attorney General Bill Schuette
State of Michigan
G. Mennen Williams Building, 7th Floor
525 W. Ottawa Street
P.O. Box 30212
Lansing, MI 48909
miag@michigan.gov

From: Anderson, Madhu (DEQ)
Sent: Monday, November 16, 2015 10:33 AM
To: Kuhl, Richard (AG);Shekter Smith, Liane (DEQ);Bettenhausen, Margaret (AG)
Cc: Devereaux, Tracy Jo (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Benzie, Richard (DEQ);Prysby, Mike (DEQ);Busch, Stephen (DEQ);Philip, Kris (DEQ);Sygo, Jim (DEQ);Wyant, Dan (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Krisztian, George (DEQ)

Attorney-Client Privilege

From: Kuhl, Richard (AG)
Sent: Monday, November 16, 2015 9:14 AM
To: Shekter Smith, Liane (DEQ); Bettenhausen, Margaret (AG)
Cc: Devereaux, Tracy Jo (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ); Philip, Kris (DEQ); Sygo, Jim (DEQ); Wyant, Dan (DEQ); Anderson, Madhu (DEQ); Tommasulo, Karen (DEQ); Wurfel, Brad (DEQ); Pallone, Maggie (DEQ); Krisztian, George (DEQ)

Attorney-Client Privilege

Attorney-Client Privilege

Richard S. Kuhl
Assistant Attorney General
Environment, Natural Resources,
and Agriculture Division
6th Floor, G. Mennen Williams Building
525 West Ottawa Street
P.O. Box 30755
Lansing, MI 48909

PH: (517) 335-0696
FX: (517) 373-1610

kuhlr@michigan.gov

From: Shekter Smith, Liane (DEQ)
Sent: Saturday, November 14, 2015 4:41 PM
To: Kuhl, Richard (AG) <KuhlR@michigan.gov>; Bettenhausen, Margaret (AG) <BettenhausenM@michigan.gov>
Cc: Devereaux, Tracy Jo (DEQ) <DEVEREAUXT@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Shaler, Karen (DEQ) <SHALERK@michigan.gov>; Benzie, Richard (DEQ) <BENZIER@michigan.gov>; Prysby, Mike (DEQ) <PRYSBYM@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>; Philip, Kris (DEQ) <PHILIPK@michigan.gov>; Sygo, Jim (DEQ) <SygoJ@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Anderson, Madhu (DEQ) <AndersonM30@michigan.gov>; Tommasulo, Karen (DEQ) <TommasuloK@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Krisztian, George (DEQ) <krisztiang@michigan.gov>

Attorney-Client Privilege

Liane

From: Shekter Smith, Liane (DEQ)
Sent: Saturday, November 14, 2015 2:46 PM
To: Kuhl, Richard (AG); Bettenhausen, Margaret (AG); Sygo, Jim (DEQ); Krisztian, George (DEQ); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Anderson, Madhu (DEQ); Wyant, Dan (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ); Philip, Kris (DEQ)

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)
Sent: Friday, November 13, 2015 6:03 PM
To: Kuhl, Richard (AG); Bettenhausen, Margaret (AG); Sygo, Jim (DEQ); Krisztian, George (DEQ); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Anderson, Madhu (DEQ); Wyant, Dan (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Busch, Stephen (DEQ); Shekter Smith, Liane (DEQ)

Attorney-Client Privilege

Liane

From: Krisztian, George (DEQ)
Sent: Tuesday, November 17, 2015 6:38 AM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Subject: Howard Croft, Flint official responsible for water oversight, resigns | MLive.com

FYI

http://www.mlive.com/news/flint/index.ssf/2015/11/howard_croft_flint_official_re.html

Sent from my iPhone

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Sent: Wednesday, November 18, 2015 1:20 PM
To: hedman.susan@epa.gov;fortin.denise@epa.gov
Cc: Jordan.Dickinson@mail.house.gov;mayor@cityofflint.com;poy.thomas@epa.gov;Schock.michael@epa.gov;Lytle.darren@epa.gov;Wyant, Dan (DEQ);aaron_suntag@stabenow.senate.gov;Bentley_Johnson@peters.senate.gov;repphelps@house.mi.gov;SheldonNeeley@house.mi.gov;snyder@michigan.gov;Sygo, Jim (DEQ);Wurfel, Brad (DEQ);Busch, Stephen (DEQ);Cook, Pat (DEQ);Edwardsm@vt.edu;Davis.CatherineM@epa.gov;deamer.eileen@epa.gov;beckmann.ronna@epa.gov
Subject: RE: Letter Requesting EPA Review of Flint, MI Water
Attachments: 2015.11.18 Ananich EPA Response FINAL.pdf

Regional Director Hedman,

Thank you for responding to my review request. Please see the attached response to your November 16, 2015 letter.

Please do not hesitate to contact my office if you have any questions. Thank you for your consideration.

Sincerely,

The Office of State Senator Jim Ananich
Michigan Senate Minority Leader
District 27

From: Fortin, Denise [mailto:Fortin.Denise@epa.gov]
Sent: Monday, November 16, 2015 6:57 PM
To: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Cc: Davis, CatherineM <Davis.CatherineM@epa.gov>; Deamer, Eileen <deamer.eileen@epa.gov>; Beckmann, Ronna Erin <beckmann.ronna@epa.gov>
Subject: RE: Letter Requesting EPA Review of Flint, MI Water

Hello:

Please find attached a response to your October 21, 2015 letter to EPA Regional Administrator Susan Hedman.

Let me know if you have additional questions.

Thanks,

Denise Fortin
Congressional Liaison
Office of Regional Administrator
U.S. Environmental Protection Agency
312-886-9859

From: Fortin, Denise
Sent: Wednesday, November 04, 2015 5:13 PM
To: 'The Office of Senator Ananich' <SenJAnanich@senate.michigan.gov>
Cc: Davis, CatherineM <Davis.CatherineM@epa.gov>; Deamer, Eileen <deamer.eileen@epa.gov>; Beckmann, Ronna Erin <beckmann.ronna@epa.gov>
Subject: RE: Letter Requesting EPA Review of Flint, MI Water

Hello:

I'm writing to thank you for your October 21, 2015 letter to Administrator Gina McCarthy and Regional Administrator Susan Hedman regarding drinking water quality issues in Flint, Michigan.

EPA expects to be in a position to respond to your letter sometime next week. In the meantime, RA Hedman has asked me to share the two attached documents with you.

Please let us know if you have questions.

Thanks,

Denise Fortin
Congressional Liaison
Office of Regional Administrator
U.S. Environmental Protection Agency
312-886-9859

From: The Office of Senator Ananich [mailto:SenJAnanich@senate.michigan.gov]
Sent: Wednesday, October 21, 2015 11:43 AM
To: Hedman, Susan <hedman.susan@epa.gov>; Mccarthy, Gina <McCarthy.Gina@epa.gov>
Cc: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; HCroft@cityofflint.com; Poy, Thomas <poy.thomas@epa.gov>; Schock, Michael <Schock.Michael@epa.gov>; Lytle, Darren <Lytle.Darren@epa.gov>; Fortin, Denise <Fortin.Denise@epa.gov>; WyantD@michigan.gov; aaron_suntag@stabenow.senate.gov; Bentley_Johnson@peters.senate.gov; Davis, CatherineM <Davis.CatherineM@epa.gov>; repphelps@house.mi.gov; SheldonNeeley@house.mi.gov; snyder **PPI**
Subject: Letter Requesting EPA Review of Flint, MI Water

Administrator McCarthy and Regional Director Hedman,

Please see the attached letter regarding a request for an EPA review of Flint, Michigan's water treatment.

Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.

Sincerely,

The Office of State Senator Jim Ananich
Michigan Senate Minority Leader
District 27

JIM ANANICH
27TH DISTRICT
P.O. BOX 30036
LANSING, MI 48909-7536
PHONE: (517) 373-0142
FAX: (517) 373-8938

THE SENATE
STATE OF MICHIGAN

November 18, 2015

Susan Hedman
Regional Administrator
United States Environmental Protection Agency Region 5
Ralph Metcalfe Federal Building
77 West Jackson Boulevard
Chicago, IL 60604

Regional Director Hedman,

Thank you for responding to my review request; I appreciate your and your agency's commitment to conduct an audit of MDEQ's implementation of the Safe Drinking Water Act. I look forward to reading the audit report once it is completed. These are important steps toward ensuring accountability and preventing another disaster like this from happening ever again.

However, I would like to reiterate my request that all evidence gathered during the course of the audit be made public, regardless of the findings of the audit. Michigan residents, and especially the residents of Flint, deserve to know whether they should trust MDEQ.

If you have any questions, please contact my office at senjananich@senate.mi.gov or (517) 373-0142. Thank you for your consideration.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

cc:
Governor Rick Snyder
U.S. Representative Dan Kildee
U.S. Senator Debbie Stabenow
U.S. Senator Gary Peters
State Representative Sheldon Neeley, District 34
State Representative Phil Phelps, District 49
Mayor Karen Weaver, City of Flint
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Dan Wyant, MDEQ
Jim Sygo, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Krisztian, George (DEQ)
Sent: Wednesday, November 18, 2015 4:07 PM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Anderson, Madhu (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Devereaux, Tracy Jo (DEQ);Copen, Leigh (DEQ);Feuerstein, Heather (DEQ)
Subject: Partnering Plan
Attachments: 17 Point Partnering Plan.docx

Attached is a working draft of a partnering plan that we will be using as a roadmap moving forward. We will discuss this at our internal action review meeting tomorrow (Thursday) morning. Please review this prior to tomorrow's meeting. We can edit and add items as the group feels appropriate. This will be included in the governor's report next Monday.

Thank you
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

DEQ's 17 Point Partnering Plan

1. **After Action Plan (FAQ) will be ready by noon November 16, 2015**
    - First version complete – updated as needed

2. **School Test Data**
    - School reports to be expedited
    - Steve Busch creates summary reports
    - George Krisztian creates summary spreadsheet

3. **Blood exposure**
    - DHHS is lead on providing data

4. **Meeting with Mayor Karen Weaver**
    - Harvey Hollins lead – Dan Wyant, Jim Sygo and George Krisztian to attend

5. **Messaging our Partnering Plan**
    - Provide ongoing public updates regarding Governor's 10 point plan
    - Continue emphasis on the availability of free testing for Flint residents

6. **Sampling Protocol**
    - Establish alignment with EPA Region 5 on sampling protocol

7. **Lead service line replacement**
    - Expand RLF directed at lead service line replacement
    - Amy Epkey, Maggie Pallone and Sonya Butler

8. **Partner with EPA**
    - Jim Sygo → Bob Kaplan
    - Dan Wyant → Susan Hedman
    - Mike Prysby and Steve Busch → Daren Lytle and Mike Schock
    - George Krisztian → Tom Burke

9. **Meet with Mott Foundation to discuss Lead Service Line Identification Study**

10. **Lead Education Program**
    - DHHS is the lead on Lead Education Program

11. Moving KWA forward

- Proactive meetings with KWA

12. Participate actively with Technical Advisory Council

13. Utilize Joan Rose and MSU water expertise

14. Public Outreach

- Mayor Karen Weaver
- Genesee County Health Department
- Drs. Lawrence Reynolds, Eden Wells and Matthew Davis
- Ministers
- Land Bank
- Legislators
- Citizens

15. Outreach to schools

- EPA guidance on testing
- Work with state superintendent

16. Make recommendations to EPA about LCR

17. Enforcement response to letter sent (date unknown)

- Wait until after Dec 30th

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, November 20, 2015 1:11 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of November 16, 2015
Attachments: Week of 111615 Flint Water E-Clips.pdf

DEQ e-clips

Week of November 16, 2015

Flint and Other Water Stories

ABC12: Poor record keeping to blame for inaccurate water testing
http://www.abc12.com/home/headlines/Poor-record-keeping-to-blame-for-inaccurate-water-testing-347878051.html

Detroit Free Press: Flint lead problems raised at national water hearing
http://www.freep.com/story/news/local/michigan/2015/11/18/flint-lead-problems-raised-national-water-hearing/75990848/

Detroit News: Flint may have failed to follow US water testing rules
http://www.detroitnews.com/story/news/politics/2015/11/12/flint-lead-federal-water-testing-rules/75671550/

Flint officials, experts hit lead contamination law
http://www.detroitnews.com/story/news/politics/2015/11/18/flint-water/75987558/

Huffington Post: Flint Residents Suing Over Toxic Tap Water
http://www.huffingtonpost.com/entry/flint-michigan-water-crisis_5649f574e4b08cda34899a94

MLive: County Health Department, state partner to educate Flint area on lead
http://www.mlive.com/news/flint/index.ssf/2015/11/county_health_department_state.html

Report: Families file lawsuit in Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/11/report_families_file_lawsuit_i.html#incart_river_index

ACLU, national activists intend to sue Gov. Snyder, Flint over lead in water
http://www.mlive.com/news/flint/index.ssf/2015/11/nrdc_aclu_file_notice_to_sue_s.html

Lead-exposed Flint kids need better nutrition now, Stabenow says
http://www.mlive.com/news/flint/index.ssf/2015/11/stabenow_says_shes_working_to.html#incart_story_package

EPA group to take testimony on Flint water crisis as it weighs rule changes
http://www.mlive.com/news/flint/index.ssf/2015/11/kildee_scheduled_to_testify_on.html#incart_story_package

'Water is a human right,' Democrats say with new bills addressing Flint crisis, Detroit shutoffs
http://www.mlive.com/lansing-news/index.ssf/2015/11/water_is_a_human_right_democra.html

Class action lawsuit claims Snyder, Flint put water cost above safety
http://www.mlive.com/news/flint/index.ssf/2015/11/class_action_lawsuit_claims_sn.html#incart_river_home

Refund Flint $2 million for cost of Detroit water, Kildee tells Gov. Snyder
http://www.mlive.com/news/flint/index.ssf/2015/11/kildee_asks_gov_snyder_for_pay.html#incart_m-rpt-2

Story of Flint water crisis, 'failure of government,' unfolds in Washington
http://www.mlive.com/news/flint/index.ssf/2015/11/story_of_flint_water_crisis_fa.html#incart_river_home

Michigan Radio: Flint water crisis prompts more scrutiny of federal drinking water rules
http://michiganradio.org/post/flint-water-crisis-prompts-more-scrutiny-federal-drinking-water-rules#stream/0

State's instructions for sampling drinking water for lead "not best practice"
http://michiganradio.org/post/states-instructions-sampling-drinking-water-lead-not-best-practice#stream/0

After news reports, state asks Flint for lead service line info
http://michiganradio.org/post/after-news-reports-state-asks-flint-lead-service-line-info#stream/0

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of November 16, 2015

Flint and Other Water Stories

ABC12: Poor record keeping to blame for inaccurate water testing
http://www.abc12.com/home/headlines/Poor-record-keeping-to-blame-for-inaccurate-water-testing-347878051.html

Detroit Free Press: Flint lead problems raised at national water hearing
http://www.freep.com/story/news/local/michigan/2015/11/18/flint-lead-problems-raised-national-water-hearing/75990848/

Detroit News: Flint may have failed to follow US water testing rules
http://www.detroitnews.com/story/news/politics/2015/11/12/flint-lead-federal-water-testing-rules/75671550/

Flint officials, experts hit lead contamination law
http://www.detroitnews.com/story/news/politics/2015/11/18/flint-water/75987558/

Huffington Post: Flint Residents Suing Over Toxic Tap Water
http://www.huffingtonpost.com/entry/flint-michigan-water-crisis_5649f574e4b08cda34899a94

MLive: County Health Department, state partner to educate Flint area on lead
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Report: Families file lawsuit in Flint water crisis
http://www.mlive.com/news/flint/index.ssf/2015/11/report_families_file_lawsuit_i.html#incart_river_index

ACLU, national activists intend to sue Gov. Snyder, Flint over lead in water
http://www.mlive.com/news/flint/index.ssf/2015/11/nrdc_aclu_file_notice_to_sue_s.html

Lead-exposed Flint kids need better nutrition now, Stabenow says
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'Water is a human right,' Democrats say with new bills addressing Flint crisis, Detroit shutoffs
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Class action lawsuit claims Snyder, Flint put water cost above safety
http://www.mlive.com/news/flint/index.ssf/2015/11/class_action_lawsuit_claims_sn.html#incart_river_home

Refund Flint $2 million for cost of Detroit water, Kildee tells Gov. Snyder
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Story of Flint water crisis, 'failure of government,' unfolds in Washington
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Michigan Radio: Flint water crisis prompts more scrutiny of federal drinking water rules
http://michiganradio.org/post/flint-water-crisis-prompts-more-scrutiny-federal-drinking-water-rules#stream/0

State's instructions for sampling drinking water for lead "not best practice"
http://michiganradio.org/post/states-instructions-sampling-drinking-water-lead-not-best-practice#stream/0

After news reports, state asks Flint for lead service line info
http://michiganradio.org/post/after-news-reports-state-asks-flint-lead-service-line-info#stream/0

From: Krisztian, George (DEQ)
Sent: Tuesday, November 24, 2015 7:34 AM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Anderson, Madhu (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Devereaux, Tracy Jo (DEQ);Copen, Leigh (DEQ);Feuerstein, Heather (DEQ)
Subject: Updated Partnering Plan
Attachments: 18 Point Partnering Plan.docx

Attached is the updated Partnering Plan. This is the version that went to the Governor's Office yesterday.

Thank you
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

DEQ's 18 Point Partnering Plan

1. **After Action Plan (FAQ) will be ready by noon November 16, 2015**
    - First version complete – updated as needed

2. **School Test Data**
    - School reports to be expedited
    - Steve Busch creates summary reports
    - George Krisztian creates summary spreadsheet

3. **Blood exposure**
    - DHHS is lead on providing data

4. **Meeting with Mayor Karen Weaver**
    - Harvey Hollins lead – Dan Wyant, Jim Sygo and George Krisztian to attend

5. **Messaging our Partnering Plan**
    - Provide ongoing public updates regarding Governor's 10 point plan
    - Continue emphasis on the availability of free testing for Flint residents
    - OEA to direct the Public to the "Flintwater" website

6. **Sampling Protocol**
    - Establish alignment with EPA Region 5 on sampling protocol

7. **Lead service line replacement**
    - Expand RLF directed at lead service line replacement
    - Amy Epkey, Maggie Pallone and Sonya Butler

8. **Partner with EPA**
    - Jim Sygo → Bob Kaplan
    - Dan Wyant → Susan Hedman
    - Mike Prysby and Steve Busch → Darren Lytle and Mike Schock
    - George Krisztian → Tom Burke
    - ODWMA Staff → EPA Region 5 Staff (Jennifer Crooks and Tom Poy

9. **Meet with Mott Foundation to discuss Lead Service Line Identification Study**

10. **Lead Education Program**

- DHHS is the lead on Lead Education Program

11. Moving KWA forward

- Proactive meetings with KWA

12. Participate actively with Technical Advisory Council

13. Utilize Joan Rose and MSU water expertise

14. Public Outreach

- Mayor Karen Weaver
- Genesee County Health Department
- Drs. Lawrence Reynolds, Eden Wells and Matthew Davis
- Ministers
- Land Bank
- Legislators
- Citizens

15. Outreach to schools

- EPA guidance on testing
- Work with state superintendent
- ODWMA Staff to work on Literature

16. Make recommendations to EPA about LCR

17. Compliance Communication letter sent November 9, 2015

- Wait until after Dec 30th

18. Enhance Coordination with Health Officials regarding personal health notifications of drinking water issues.

From: Sygo, Jim (DEQ)
Sent: Wednesday, December 02, 2015 1:04 PM
To: Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: FW: Flint Water Issue

Do we want to provide a name? I can do it but I just don't know if you want someone out there talking about it at this time.

-----Original Message-----
From: Geer, Jason [mailto:JGeer@michamber.com]
Sent: Wednesday, December 02, 2015 11:52 AM
To: Sygo, Jim (DEQ)
Subject: Flint Water Issue

Jim:

I hope all is well with you.

Our members are curious to learn more about the flint water issue. Could you recommend anyone that would be a fair presenter on this issue? We have our policy committee meeting next Thursday in the morning at the Michigan chamber.

Thanks for your help.

Jason Geer

Sent from my iPhone

This message was secured by ZixCorp(R).

From: Eisner, Jennifer (DHHS)
Sent: Thursday, December 03, 2015 11:18 AM
To: Agen, Jarrod (GOV);Baird, Richard (GOV);Murray, David (GOV);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Lyon, Nick (DHHS);Becker, Timothy (DHHS);Lasher, Geralyn (DHHS);Minicuci, Angela (DHHS);Kennedy, Jordan (GOV);Grijalva, Nancy (DHHS);Granger, Patricia (DHHS)
Subject: Flint EBL Release & Documents
Attachments: Flint EBL Data Press Release V9.docx; Comms Plan - Flint EBL Data Summary 12315.docx; Flint Blood Lead Level Summary Report Dec.pdf

Good morning, all:

Attached for your review please find the updated press release, communications plan and December summary report regarding elevated blood lead levels in Flint. We are planning to issue the release and post the report today at 2 p.m.

Yesterday, Dave sent over a two questions from the governor. Our team has provided the following responses:

Do the elevated lead levels stick with a person for life?
We do see blood lead levels decrease after education takes place and exposure to lead sources is reduced. The purpose of screening children for lead is to identify those with elevated levels. Removing potential sources of lead exposure and ensuring proper nutrition and healthcare leads to decreases in blood lead levels in follow-up testing, which is an important part of case management. Lead has a half-life in blood of approximately 25 days; in soft tissue, about 40 days; and in the non-labile portion of bone, more than 25 years.

Why do the lead levels spike on a seasonal basis?
When reviewing historical trend data, the risk of lead exposure is highest during the third quarter of each year – July through September. Seasonal variation is the result of a number of factors including increased exposure to lead in dust and soil in the summer months.

The notifications will be timed as follows:

1:30 p.m.
- Send final embargoed release and summary report to:
  - Genesee County Health Department – Geralyn Lasher
  - Dr. Mona Hannah-Attisha – Geralyn Lasher
  - Task Force Members – Geralyn Lasher
  - City of Flint Mayor's Office – Geralyn Lasher
  - Congress and legislature – Elizabeth Hertel

2 p.m.
- Issue press release and summary report
- Post press release and summary report to MDHHS website newsroom and Flint Water website, www.michigan.gov/flintwater

Please let me know if you have any additional questions, edits or concerns.

Thank you,

Jennifer Eisner

Public Information Officer
Michigan Department of Health and Human Services
Office: 517-241-2112 or EisnerJ@michigan.gov
Cell: PPI

STATE OF MICHIGAN
DEPARTMENT OF HEALTH AND HUMAN SERVICES
LANSING

RICK SNYDER
GOVERNOR

NICK LYON
DIRECTOR

FOR IMMEDIATE RELEASE
December 3, 2015

CONTACT: Jennifer Eisner
(517) 241-2112

MDHHS releases latest data outlining blood lead levels in Flint

Follow-up care, case management resources continue for families

LANSING, Mich. – Preliminary data indicates that 30 of 1,361 adults and children tested in Flint since October 1 had elevated blood lead levels, according to a report issued today by the Michigan Department of Health and Human Services.

This marks the first summary report on lead testing called for in the state's action plan related to health concerns about Flint's water infrastructure.

"Our goal is to help families reduce their exposure to lead sources," said Dr. Eden Wells, MDHHS chief medical executive. "We have made progress in testing and identifying those with elevated blood lead levels, and the department will continue to work closely with the Genesee County Health Department to reach these families. We will remain diligent in our ongoing outreach and education efforts."

Information comes from tests administered citywide to 1,361 children and adults since October 1. Tests showed that 21 of 969 children age 17 or younger and 9 of 392 adults over the age 18 were identified with elevated blood lead levels.

The report covers test results reported to MDHHS since the state action plan was put in place Oct. 2. It includes the number of tests and number of elevated blood lead levels greater than 5 micrograms per deciliter, and captures both capillary and venous blood tests that have been reported to MDHHS since the beginning of October. People who have had multiple tests are counted only once. Five micrograms per deciliter is the level that the Centers for Disease Control and Prevention considers elevated and triggers health care professional follow up with families.

The full report is posted online at www.michigan.gov/flintwater and will be updated as more data becomes available.

When reviewing historical trend data, the risk of lead exposure is highest during the third quarter of each year – July through September. Seasonal variation is the result of a number of factors including increased exposure to lead in dust and soil in the summer months.

In the third quarter of 2010, 8.3 percent of Flint children 6 and under showed elevated blood lead levels. The figure gradually decreased to 4.1 percent in the third quarter of 2013. During the same months in 2014, the figure increased to 7.5 percent and decreased to 6.4 percent in the third quarter of 2015.

– MORE –

Last month, MDHHS collaborated with the county health department and local partners to distribute educational resources and informational letters to Flint parents regarding lead testing. The state is providing funding for GCHD nurses to work with families when an elevated blood lead level has been detected. During these follow-up visits, nurses coordinate with environmental health investigators to meet with families in their homes to identify lead exposures, address questions and provide water filters. People can be exposed to lead from paint, soil, plumbing and other sources.

MDHHS continues to provide free water filters and replacement cartridges to Flint residents at four locations, including the MDHHS Flint offices and the Genesee County Community Action Resource Department. For a full list of locations and hours of distribution, visit www.michigan.gov/flintwater.

To help residents properly install water filters, and to demonstrate how to replace the original when it expires, MDHHS has created an instructional video on its YouTube channel. For updates, visit www.michigan.gov/flintwater.

# # #

This Document is a Non-Responsive Attachment.

Flint EBL Data Summary

Communications Plan

Purpose

To release elevated blood lead level data for the city of Flint and communicate the summary to our partners in the community as well as local and state media. The report is intended to inform residents about blood lead level testing efforts in Flint and provide preliminary cumulative numbers on an ongoing basis.

Communications Timeline – December 3, 2015

11 a.m.

- Send final release and summary report to Governor's office, Michigan Department of Environmental Quality

1:30 p.m.

- Send final embargoed release and summary report to:
  - Genesee County Health Department – Geralyn Lasher
  - Dr. Mona Hannah-Attisha – Geralyn Lasher
  - Task Force Members – Geralyn Lasher
  - City of Flint Mayor's Office – Geralyn Lasher
  - Congress and legislature – Elizabeth Hertel

2 p.m.

- Issue press release and summary report
- Post press release and summary report to MDHHS website newsroom and Flint Water website, www.michigan.gov/flintwater

3 p.m.

- Pitched media interviews with Dr. Eden Wells:
  - Ron Fonger, MLive
  - Kristi Tanner, Detroit Free Press
  - Robin Erb, Detroit Free Press
  - Steve Carmody, Michigan Radio

MDHHS Contacts – Office Number 517-241-2112

- Geralyn Lasher, cell – PPI
- Angela Minicuci, cell – PPI
- Jennifer Eisner, cell – PPI

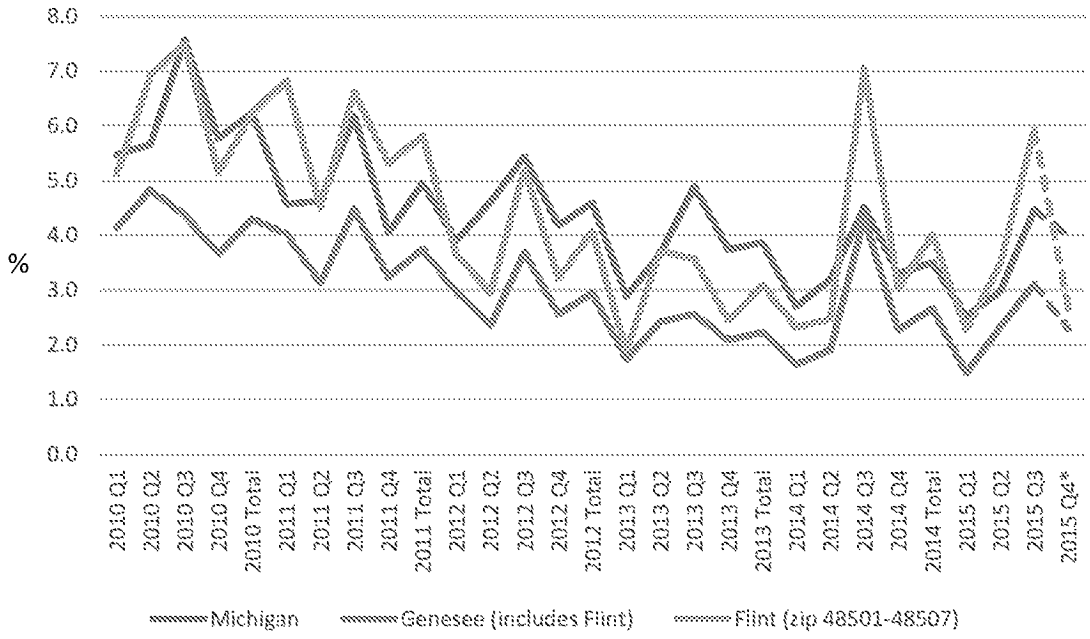
Michigan Department of Health and Human Services (MDHHS)
Blood Lead Level Test Results for Flint Zip Codes 48501-48507
Genesee County, and the State of Michigan
Summary as of November 13, 2015

Executive Summary

This report is generated by MDHHS to track Blood Lead Level test results in Flint, Michigan.

- Counts on this report include both capillary and venous blood tests. People who have had multiple tests are counted only once per year.
- Since 10/1/2015, an additional 1,361 people have been tested in Flint.
- Continued testing efforts by Genesee County Health Department, MDHHS and local medical personnel have identified 21 children with blood lead levels greater than or equal to 5µg/dL (micrograms per deciliter) since 10/1/2015.
- Three percent of the children younger than 6 years old tested since 10/1/2015 have had blood lead levels greater than or equal to 5µg/dL.
- Additional testing is ongoing. Counts will vary as new results are added.

Incidence of elevated blood lead > = 5 mcg/dl among children < 6 years of age by quarter, 2010- 2015



Deduplicated by year, retains test during the time period.
*Data for Q4 2015 are incomplete

** Data for Quarter 4 of 2015 are incomplete and subject to change*

	Children younger than 6 Years Old			Children 6 to 17 Years Old		
	Michigan	Genesee County	Flint 48501-48507	Michigan	Genesee County	Flint 48501-48507
Total tested for lead 1/1/2010 to 12/31/2010:	152,608	6,932	3,560	17,963	867	463
Number of test results ≥5µg/dL 1/1/2010 to 12/31/10:	9,509	298	222	907	25	20
Total tested for lead from 1/1/2011 to 12/31/2011:	149,420	6,667	3,093	15,725	1,038	544
Number of test results ≥5µg/dL 1/1/2011 to 12/31/11:	7,392	250	180	651	20	15
Total tested for lead 1/1/2012 to 12/31/2012:	146,142	7,008	3,112	15,460	1,386	630
Number of test results ≥5µg/dL 1/1/2012 to 12/31/12:	6,704	206	127	478	17	12
Total tested for lead 1/1/2013 to 12/31/2013:	145,813	6,986	3,077	13,897	1,241	566
Number of test results ≥5µg/dL 1/1/2013 to 12/31/13:	5,647	156	95	342	9	4
Total tested for lead 1/1/2014 to 12/31/2014:	141,355	6,690	3,045	12,936	913	428
Number of test results ≥5µg/dL 1/1/2014 to 12/31/14:	4,948	178	122	386	6	5
Total tested for lead 1/1/2015 to 11/13/2015:	120,699	5,778	2,704	10,841	1,197	765
Number of test results ≥5µg/dL 1/1/2015 to 11/13/2015:	4,200	149	101	309	10	8
Total tested for lead 10/1/2015 to 11/13/2015:	14,593	957	560	1,412	502	409
Number of test results ≥5µg/dL 10/1/2015 to 11/13/2015:	583	22	15	38	6	6

** Data for Quarter 4 of 2015 are incomplete and subject to change*

	Adults 18 Years and Older			Total Number of People of All Ages Tested		
	Michigan	Genesee County	Flint 48501-48507	Michigan	Genesee County	Flint 48501-48507
Total tested for lead 1/1/2010 to 12/31/2010:	13,853	602	195	184,424	8,401	4,218
Number of test results ≥5µg/dL 1/1/2010 to 12/31/10:	1,462	42	18	11,878	365	260
Total tested for lead 1/1/2011 to 12/31/2011:	13,259	542	139	178,404	8,247	2,726
Number of test results ≥5µg/dL 1/1/2011 to 12/31/11:	1,369	44	16	9,412	314	211
Total tested for lead 1/1/2012 to 12/31/2012:	13,059	556	155	174,661	8,950	3,907
Number of test results ≥5µg/dL 1/1/2012 to 12/31/12:	1,415	33	11	8,597	256	150
Total tested for lead 1/1/2013 to 12/31/2013:	12,199	498	136	171,909	8,725	3,779
Number of test results ≥5µg/dL 1/1/2013 to 12/31/13:	1,499	54	16	7,488	219	115
Total tested for lead 1/1/2014 to 12/31/2014:	12,684	441	112	166,975	8,044	3,585
Number of test results ≥5µg/dL 1/1/2014 to 12/31/14:	1,422	44	12	6,756	228	139
Total tested for lead 1/1/2015 to 11/13/2015:	11,685	860	526	143,225	7,835	3,995
Number of test results ≥5µg/dL 1/1/2015 to 11/13/2015:	1,195	30	15	5,704	204	124
Total tested for lead 10/1/2015 to 11/13/2015:	1,615	483	392	17,620	1,942	1,361
Number of test results ≥5µg/dL 10/1/2015 to 11/13/2015:	160	11	9	781	44	30

** Data for Quarter 4 of 2015 are incomplete and subject to change*

From: Eisner, Jennifer (DHHS)
Sent: Thursday, December 03, 2015 1:06 PM
To: Lyon, Nick (DHHS);Becker, Timothy (DHHS);Lasher, Geralyn (DHHS);Minicuci, Angela (DHHS);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Hertel, Elizabeth (DHHS)
Cc: Murray, David (GOV);Grijalva, Nancy (DHHS);Granger, Patricia (DHHS)
Subject: FW: Flint EBL Release & Documents
Attachments: Flint EBL Data Press Release V9.docx; Flint Blood Lead Level Summary Report Dec.pdf; Comms Plan - Flint EBL Data Summary 12315.docx

All –

The governor's team has given the go ahead. We've adjusted the timeline slightly to issue the press release and post the report at 2:30 p.m. Embargoed stakeholder notifications will now happen at 2 p.m. as outlined below:

2 p.m.

- Send final embargoed release and summary report to:
  - Genesee County Health Department – Geralyn Lasher
  - Dr. Mona Hannah-Attisha – Geralyn Lasher
  - Task Force Members – Geralyn Lasher
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Jennifer Eisner
Public Information Officer
Michigan Department of Health and Human Services
Office: 517-241-2112 or EisnerJ@michigan.gov
Cell: PPI

From: Eisner, Jennifer (DHHS)
Sent: Thursday, December 03, 2015 11:18 AM
To: Agen, Jarrod (GOV) <AgenJ@michigan.gov>; Baird, Richard (GOV) <bairdr@michigan.gov>; Murray, David (GOV) <MurrayD1@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Tommasulo, Karen (DEQ) <TommasuloK@michigan.gov>; Lyon, Nick (DHHS) <LyonN2@michigan.gov>; Becker, Timothy (DHHS) <beckert1@michigan.gov>; Lasher, Geralyn (DHHS) <lasherg@michigan.gov>; Minicuci, Angela (DHHS) <MinicuciA@michigan.gov>; Kennedy, Jordan (GOV) <KennedyJ4@michigan.gov>; Grijalva, Nancy (DHHS) <GrijalvaN@michigan.gov>; Granger, Patricia (DHHS)

<GrangerP@michigan.gov>
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Please let me know if you have any additional questions, edits or concerns.

Thank you,

Jennifer Eisner
Public Information Officer
Michigan Department of Health and Human Services
Office: 517-241-2112 or EisnerJ@michigan.gov
Cell: PPI

STATE OF MICHIGAN
DEPARTMENT OF HEALTH AND HUMAN SERVICES
LANSING

RICK SNYDER
GOVERNOR

NICK LYON
DIRECTOR

FOR IMMEDIATE RELEASE
December 3, 2015

CONTACT: Jennifer Eisner
(517) 241-2112

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"Our goal is to help families reduce their exposure to lead sources," said Dr. Eden Wells, MDHHS chief medical executive. "We have made progress in testing and identifying those with elevated blood lead levels, and the department will continue to work closely with the Genesee County Health Department to reach these families. We will remain diligent in our ongoing outreach and education efforts."

Information comes from tests administered citywide to 1,361 children and adults since October 1. Tests showed that 21 of 969 children age 17 or younger and 9 of 392 adults over the age 18 were identified with elevated blood lead levels.

The report covers test results reported to MDHHS since the state action plan was put in place Oct. 2. It includes the number of tests and number of elevated blood lead levels greater than 5 micrograms per deciliter, and captures both capillary and venous blood tests that have been reported to MDHHS since the beginning of October. People who have had multiple tests are counted only once. Five micrograms per deciliter is the level that the Centers for Disease Control and Prevention considers elevated and triggers health care professional follow up with families.

The full report is posted online at www.michigan.gov/flintwater and will be updated as more data becomes available.

When reviewing historical trend data, the risk of lead exposure is highest during the third quarter of each year – July through September. Seasonal variation is the result of a number of factors including increased exposure to lead in dust and soil in the summer months.

In the third quarter of 2010, 8.3 percent of Flint children 6 and under showed elevated blood lead levels. The figure gradually decreased to 4.1 percent in the third quarter of 2013. During the same months in 2014, the figure increased to 7.5 percent and decreased to 6.4 percent in the third quarter of 2015.

– MORE –

Last month, MDHHS collaborated with the county health department and local partners to distribute educational resources and informational letters to Flint parents regarding lead testing. The state is providing funding for GCHD nurses to work with families when an elevated blood lead level has been detected. During these follow-up visits, nurses coordinate with environmental health investigators to meet with families in their homes to identify lead exposures, address questions and provide water filters. People can be exposed to lead from paint, soil, plumbing and other sources.

MDHHS continues to provide free water filters and replacement cartridges to Flint residents at four locations, including the MDHHS Flint offices and the Genesee County Community Action Resource Department. For a full list of locations and hours of distribution, visit www.michigan.gov/flintwater.

To help residents properly install water filters, and to demonstrate how to replace the original when it expires, MDHHS has created an instructional video on its YouTube channel. For updates, visit www.michigan.gov/flintwater.

# # #

This Document is a Non-Responsive Attachment.

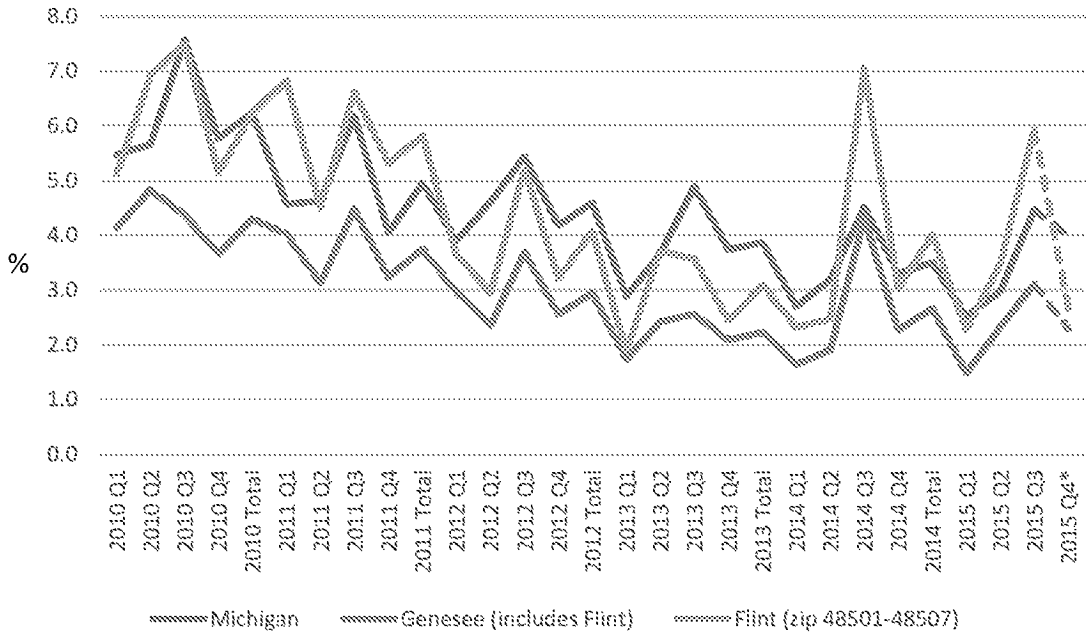
Michigan Department of Health and Human Services (MDHHS)
Blood Lead Level Test Results for Flint Zip Codes 48501-48507
Genesee County, and the State of Michigan
Summary as of November 13, 2015

Executive Summary

This report is generated by MDHHS to track Blood Lead Level test results in Flint, Michigan.

- Counts on this report include both capillary and venous blood tests. People who have had multiple tests are counted only once per year.
- Since 10/1/2015, an additional 1,361 people have been tested in Flint.
- Continued testing efforts by Genesee County Health Department, MDHHS and local medical personnel have identified 21 children with blood lead levels greater than or equal to 5µg/dL (micrograms per deciliter) since 10/1/2015.
- Three percent of the children younger than 6 years old tested since 10/1/2015 have had blood lead levels greater than or equal to 5µg/dL.
- Additional testing is ongoing. Counts will vary as new results are added.

Incidence of elevated blood lead > = 5 mcg/dl among children < 6 years of age by quarter, 2010- 2015



Deduplicated by year, retains test during the time period.
*Data for Q4 2015 are incomplete

** Data for Quarter 4 of 2015 are incomplete and subject to change*

	Children younger than 6 Years Old			Children 6 to 17 Years Old		
	Michigan	Genesee County	Flint 48501-48507	Michigan	Genesee County	Flint 48501-48507
Total tested for lead 1/1/2010 to 12/31/2010:	152,608	6,932	3,560	17,963	867	463
Number of test results ≥5µg/dL 1/1/2010 to 12/31/10:	9,509	298	222	907	25	20
Total tested for lead from 1/1/2011 to 12/31/2011:	149,420	6,667	3,093	15,725	1,038	544
Number of test results ≥5µg/dL 1/1/2011 to 12/31/11:	7,392	250	180	651	20	15
Total tested for lead 1/1/2012 to 12/31/2012:	146,142	7,008	3,112	15,460	1,386	630
Number of test results ≥5µg/dL 1/1/2012 to 12/31/12:	6,704	206	127	478	17	12
Total tested for lead 1/1/2013 to 12/31/2013:	145,813	6,986	3,077	13,897	1,241	566
Number of test results ≥5µg/dL 1/1/2013 to 12/31/13:	5,647	156	95	342	9	4
Total tested for lead 1/1/2014 to 12/31/2014:	141,355	6,690	3,045	12,936	913	428
Number of test results ≥5µg/dL 1/1/2014 to 12/31/14:	4,948	178	122	386	6	5
Total tested for lead 1/1/2015 to 11/13/2015:	120,699	5,778	2,704	10,841	1,197	765
Number of test results ≥5µg/dL 1/1/2015 to 11/13/2015:	4,200	149	101	309	10	8
Total tested for lead 10/1/2015 to 11/13/2015:	14,593	957	560	1,412	502	409
Number of test results ≥5µg/dL 10/1/2015 to 11/13/2015:	583	22	15	38	6	6

** Data for Quarter 4 of 2015 are incomplete and subject to change*

	Adults 18 Years and Older			Total Number of People of All Ages Tested		
	Michigan	Genesee County	Flint 48501-48507	Michigan	Genesee County	Flint 48501-48507
Total tested for lead 1/1/2010 to 12/31/2010:	13,853	602	195	184,424	8,401	4,218
Number of test results ≥5µg/dL 1/1/2010 to 12/31/10:	1,462	42	18	11,878	365	260
Total tested for lead 1/1/2011 to 12/31/2011:	13,259	542	139	178,404	8,247	2,726
Number of test results ≥5µg/dL 1/1/2011 to 12/31/11:	1,369	44	16	9,412	314	211
Total tested for lead 1/1/2012 to 12/31/2012:	13,059	556	155	174,661	8,950	3,907
Number of test results ≥5µg/dL 1/1/2012 to 12/31/12:	1,415	33	11	8,597	256	150
Total tested for lead 1/1/2013 to 12/31/2013:	12,199	498	136	171,909	8,725	3,779
Number of test results ≥5µg/dL 1/1/2013 to 12/31/13:	1,499	54	16	7,488	219	115
Total tested for lead 1/1/2014 to 12/31/2014:	12,684	441	112	166,975	8,044	3,585
Number of test results ≥5µg/dL 1/1/2014 to 12/31/14:	1,422	44	12	6,756	228	139
Total tested for lead 1/1/2015 to 11/13/2015:	11,685	860	526	143,225	7,835	3,995
Number of test results ≥5µg/dL 1/1/2015 to 11/13/2015:	1,195	30	15	5,704	204	124
Total tested for lead 10/1/2015 to 11/13/2015:	1,615	483	392	17,620	1,942	1,361
Number of test results ≥5µg/dL 10/1/2015 to 11/13/2015:	160	11	9	781	44	30

** Data for Quarter 4 of 2015 are incomplete and subject to change*

Flint EBL Data Summary

Communications Plan

Purpose

To release elevated blood lead level data for the city of Flint and communicate the summary to our partners in the community as well as local and state media. The report is intended to inform residents about blood lead level testing efforts in Flint and provide preliminary cumulative numbers on an ongoing basis.

Communications Timeline – December 3, 2015

11 a.m.

- Send final release and summary report to Governor's office, Michigan Department of Environmental Quality

2 p.m.

- Send final embargoed release and summary report to:
  - Genesee County Health Department – Geralyn Lasher
  - Dr. Mona Hannah-Attisha – Geralyn Lasher
  - Task Force Members – Geralyn Lasher
  - City of Flint Mayor's Office – Geralyn Lasher
  - Congress and legislature – Elizabeth Hertel

2:30 p.m.

- Issue press release and summary report
- Post press release and summary report to MDHHS website newsroom and Flint Water website, www.michigan.gov/flintwater

3 p.m.

- Pitched media interviews with Dr. Eden Wells:
  - Ron Fonger, MLive
  - Kristi Tanner, Detroit Free Press
  - Robin Erb, Detroit Free Press
  - Steve Carmody, Michigan Radio

MDHHS Contacts – Office Number 517-241-2112

- Geralyn Lasher, cell – PPI
- Angela Minicuci, cell – PPI
- Jennifer Eisner, cell – PPI

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, December 04, 2015 2:19 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of November 30, 2015
Attachments: Week of 113015 Flint Water E-Clips.pdf

DEQ e-clips

Week of November 30, 2015

Flint and Other Water Stories

Detroit Free Press: Flint water mystery: How was decision made?
http://www.freep.com/story/news/politics/2015/11/21/snyders-top-aide-talked-flint-water-supply-alternatives/76037130/

Detroit News: State: 30 Flint residents have elevated lead levels
http://www.detroitnews.com/story/news/politics/2015/12/03/state-flint-residents-elevated-lead-levels/76739392/

MLive: Flint water still unsafe without lead filters, professor says
http://www.mlive.com/news/flint/index.ssf/2015/12/lead_levels_in_flints_water_st.html

New tests show toxic lead in plumbing at Flint elementary schools
http://www.mlive.com/news/flint/index.ssf/2015/12/18_faucets_at_flints_eisenhowe.html#incart_river_index

Michigan Radio: The water is still not safe in Flint. Powerful community forum discusses road ahead.
http://michiganradio.org/post/water-still-not-safe-flint-powerful-community-forum-discusses-road-ahead#stream/0

Flint tap water "still not safe" says Virginia Tech researcher
http://michiganradio.org/post/flint-tap-water-still-not-safe-says-virginia-tech-researcher

Next City: Where Can a City Turn When the Tap Water Is Poisonous?
https://nextcity.org/daily/entry/city-tap-water-lead-poisonous-flint-michigan

The Michigan Daily: In Flint, lead contamination spurs fight for clean water
https://www.michigandaily.com/section/news/water-and-all-flints-ghosts

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of November 30, 2015

Flint and Other Water Stories

Detroit Free Press: Flint water mystery: How was decision made?
http://www.freep.com/story/news/politics/2015/11/21/snyders-top-aide-talked-flint-water-supply-alternatives/76037130/

Detroit News: State: 30 Flint residents have elevated lead levels
http://www.detroitnews.com/story/news/politics/2015/12/03/state-flint-residents-elevated-lead-levels/76739392/

MLive: Flint water still unsafe without lead filters, professor says
http://www.mlive.com/news/flint/index.ssf/2015/12/lead_levels_in_flints_water_st.html

New tests show toxic lead in plumbing at Flint elementary schools
http://www.mlive.com/news/flint/index.ssf/2015/12/18_faucets_at_flints_eisenhowe.html#incart_river_index

Michigan Radio: The water is still not safe in Flint. Powerful community forum discusses road ahead.
http://michiganradio.org/post/water-still-not-safe-flint-powerful-community-forum-discusses-road-ahead#stream/0

Flint tap water "still not safe" says Virginia Tech researcher
http://michiganradio.org/post/flint-tap-water-still-not-safe-says-virginia-tech-researcher

Next City: Where Can a City Turn When the Tap Water Is Poisonous?
https://nextcity.org/daily/entry/city-tap-water-lead-poisonous-flint-michigan

The Michigan Daily: In Flint, lead contamination spurs fight for clean water
https://www.michigandaily.com/section/news/water-and-all-flints-ghosts

From: Krisztian, George (DEQ)
Sent: Tuesday, December 08, 2015 12:26 PM
To: Shaw, Eric (DEQ);Tommasulo, Karen (DEQ)
Cc: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Subject: Brownell STEM Academy Report
Attachments: BrownellAcademy_Report.pdf; Brownell Spreadsheet.pdf

Eric,

Attached is the Final report and consolidated spreadsheet for Brownell STEM Academy. I have sent this information to the Superintendent and have informed him that we will be posting the report to the website either later today or sometime tomorrow.

I would like to speak with the Director for his approval before this gets posted. Please wait for final approval before posting.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

BROWNELL STEM ACADEMY

Outlet Sampling and Plumbing Assessment Recommendations

6302 Oxley Drive, Flint, Michigan 48504

BACKGROUND INFORMATION

On Friday, October 30, 2015, the Department of Licensing and Regulatory Affairs (DLARA) and the Department of Environmental Quality (DEQ) conducted an assessment of the plumbing system at Brownell STEM Academy to gain a comprehensive understanding of how water moves through the building and what types of plumbing materials are used. The assessment identified the following potential sources of lead leaching into drinking water:

- Lead solder joints on copper piping
- Brass valves and brass fittings
- Brass components in fixtures
- Galvanized piping

The assessment also identified a total of 23 faucets or fountains that provide water for drinking, cooking and/or food preparation. The team developed a sequence for sampling the faucets/fountains based on how water travels through the school building.

On Saturday, October 31, 2015, the DEQ and the DLARA completed sampling of the 23 faucets/fountains in the Brownell STEM Academy school building in the order determined by the plumbing assessment from the previous day, following a stagnation period of over 12 hours. At each of the 23 faucets/fountains identified, staff collected four samples. Two initial, 125-milliliter samples (P1 and P2), were collected immediately after turning on the tap. The water was then flushed for 30 seconds and a third, 125-milliliter sample (F01) was collected. Finally, the water was flushed for another two minutes, and the fourth 125-milliliter sample (F02) was collected. These samples were used to determine the impact of any lead sources in and around each specific faucet/fountain and its connecting plumbing.

The DEQ and the DLARA then completed consecutive sampling at three of the 23 faucets/fountains in the Brownell STEM Academy school building. This consecutive sampling was used to determine the impact of any lead sources located deep in the supply plumbing of the school building. The three sites included one site near the building service line, one site near the plumbing mid-point, and one site at the far end of the plumbing system. At each of these three sites, staff collected ten, 1-liter samples. The ten samples were collected immediately after turning on the tap, and consecutively, without any flushing time in between.

WATER SERVICE INFORMATION

A four-inch diameter cast iron water service line enters the main school building in the mechanical room located in the middle of the building. Piping in the boiler room immediately transitions into galvanized metal piping and then into copper piping with lead solder joints for cold water lines. Two separate copper cold water supply lines exit the mechanical room. One through the north wall in the west corner appears to serve fixtures in the north end of the main wing of the school building. A second line exits the south wall and appears to serve fixtures in the south end of the main wing, and then continues over and serves fixtures in the west wing of the school building. Copper piping with lead solder joints branches off of the copper supply lines. Hot water is distributed in continuous loops that feed from and return to a central water heater in the mechanical room. Hot water piping material, where exposed, was copper piping with lead solder joints. Brass valves were seen throughout the building.

Outlets With Lead Levels Greater Than 15 Parts per Billion

The DEQ recommends school facilities take action if samples from any drinking water outlets show lead levels greater than 15 parts per billion. Based on the sampling conducted at 23 faucets/fountains on October 31, 2015, the following 12 drinking water outlets had lead water level results greater than 15 parts per billion. Each of these 12 outlets is listed below with its sample results, including a description of the potential source(s) of lead, and recommended actions for the school to take.

Outlet: Bubbler Drinking Fountain (DW001)

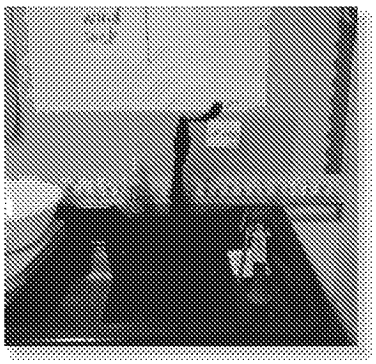


Location: North Hallway, across from Classroom 12
Results: P1=64 parts per billion, P2=4 parts per billion
F01=2 parts per billion, F02=non-detect

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass with a brass connection on the underside of the unit. The connection piping to the unit also contains some brass components, including brass fittings and a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Laboratory Sink Faucet, Right (CF004)



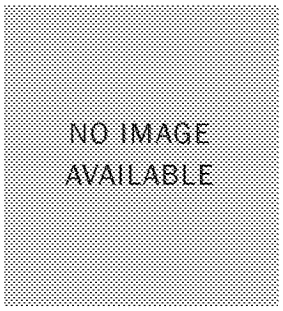
Location: Classroom 17, west wall
Results: P1=56 parts per billion, P2=29 parts per billion,
F01=7 parts per billion, F02=3 parts per billion

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. This faucet appears to be constructed of coated brass. Connecting plumbing for this faucet was not accessible, but should be checked for additional lead containing components, including brass fittings and a brass valve.

Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Laboratory Sink Faucet, Left (CF005)

Location: Classroom 17, west wall
Results: P1=31 parts per billion, P2=6 parts per billion,
F01=2 parts per billion, F02=1 part per billion

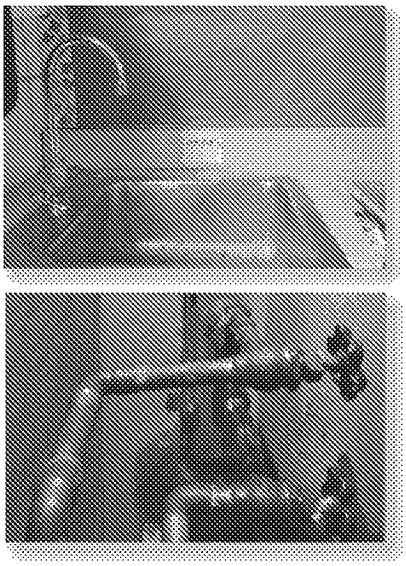


These results suggest the highest contribution of lead may be from the faucet itself. This faucet appears to be constructed of coated brass. Connecting plumbing for this faucet was not accessible, but should be checked for additional lead containing components, including brass fittings and a brass valve.

Replacement of this faucet and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet, Left (CF007)

Location: Classroom 26, south wall
Results: P1=164 parts per billion, P2=166 parts per billion,
F01=15 parts per billion, F02=1 part per billion



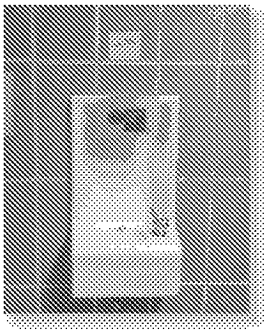
These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Hot and cold water lines connect to this faucet with a brass mixer fitting under the sink. Connecting plumbing in the cabinet under the sink is copper piping with lead solder and contains additional brass components and brass shutoff valves.

Copper results for samples P1 and P2 at this location were also at levels above which the DEQ recommends school facilities take action. Copper results suggest these same brass components are contributing to this condition.

Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead and copper exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

This faucet also has an aerator/screen at the outlet. If the faucet is not replaced, the aerator/screen should be removed, inspected for particulate accumulations, scrubbed clean, and reinstalled. If particulates are found, the aerator/screen should be periodically checked and cleaned.

Outlet: Bubbler Drinking Fountain, Right (DW008)

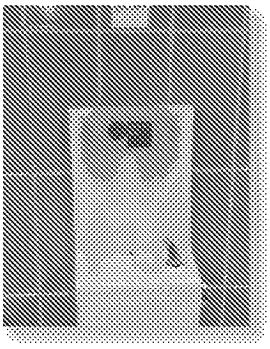


Location: South Hallway, across from Classroom 26
Results: P1=46 parts per billion, P2=11 parts per billion,
F01=4 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass with a brass connection on the underside of the unit. The connection piping to the unit also contains some brass components, including a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Drinking Fountain, Left (DW009)

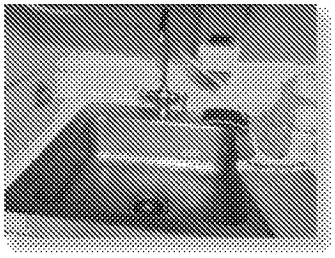


Location: South Hallway, across from Classroom 26
Results: P1=23 parts per billion, P2=7 parts per billion,
F01=3 parts per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass, has a brass connection on the underside of the unit, and a brass operating valve on the side of the unit. The connection piping to the unit also contains some brass components, including brass fittings and a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet (CF010)

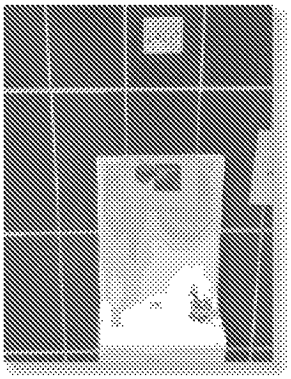


Location: Room 27 Lounge, north wall
Results: P1=25 parts per billion, P2=34 parts per billion,
F01=2 parts per billion, F02=non-detect

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass, and has a brass connection on the underside of the sink. Connecting plumbing in the cabinet under the sink includes brass connectors and brass shut off valves.

Replacement of this faucet and its connection plumbing with lead free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Drinking Fountain, Left (DW013)

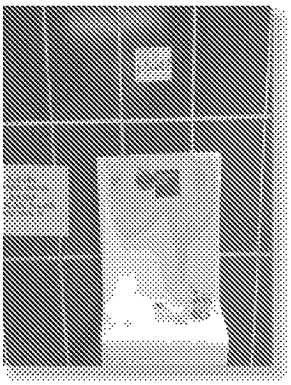


Location: West Wing South Hallway, between Classrooms 1 and 2
Results: P1=27 parts per billion, P2=15 parts per billion,
F01=8 parts per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass with a brass connection on the underside of the unit. The connection piping to the unit also contains some brass components, including brass fittings and a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Drinking Fountain, Right (DW014)

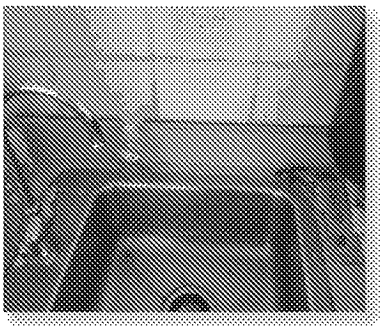


Location: West Wing South Hallway, between Classrooms 1 and 2
Results: P1=16 parts per billion, P2=3 parts per billion,
F01=2 parts per billion, F02=1 part per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass with a brass connection on the underside of the unit. The connection piping to the unit also contains some brass components, including brass fittings and a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Sink Faucet (KC019)

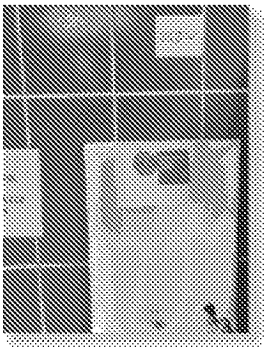


Location: Classroom 4, east wall
Results: P1=16 parts per billion, P2=10 parts per billion,
F01=non-detect, F02=non-detect

These results suggest the highest contribution of lead may be from the faucet and its connecting plumbing. The base of this faucet is chrome plated brass. Connecting plumbing for this faucet should be checked for additional lead containing components, including brass fittings and brass valves.

Replacement of this faucet and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Drinking Fountain, Right (DW020)

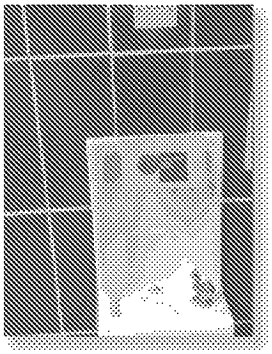


Location: West Wing North Hallway, between Classrooms 6 and 7
Results: P1=33 parts per billion, P2=15 parts per billion,
F01=20 parts per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass with a brass connection on the underside of the unit. The connection piping to the unit also contains some brass components, including brass fittings and a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlet: Bubbler Drinking Fountain, Left (DW021)



Location: West Wing North Hallway, between Classrooms 6 and 7
Results: P1=38 parts per billion, P2=27 parts per billion,
F01=2 parts per billion, F02=2 parts per billion

These results suggest the highest contribution of lead may be from the bubbler itself. This bubbler fixture is made of chrome plated brass with a brass connection on the underside of the unit. The connection piping to the unit also contains some brass components, including brass fittings and a brass valve.

Replacement of this bubbler tap and its connection plumbing with lead-free materials will significantly reduce lead exposure at this location. If replacement is not currently feasible, sample results indicate that flushing this tap for three minutes following periods of stagnation is likely to reduce lead concentrations and lead exposure.

Outlets With Lead Levels 15 Parts per Billion or Less

While the remaining 11 outlets showed sample results to be at levels requiring no further action, several recommendations have been identified.

The fourth sample (F02) at all 23 outlets following approximately three minutes of use and flushing at a reduced flow resulted in reduced lead concentrations of 3 parts per billion or less. This indicates that flushing of all taps used for drinking, cooking, and/or food preparation for four minutes following periods of stagnation will further reduce lead exposure. It is recommended that a flushing operational procedure be developed for use by staff responsible for plumbing operations and maintenance with emphasis on flushing after weekends and holidays.

Five of these 11 outlets are comprised of similar materials as the outlets listed above and could potentially experience higher lead levels under extended periods of stagnation. These faucets/fountains include:

- Bubbler Drinking Fountain Unit in North Hallway, across from Classroom 12 (DW002)
- Chrome Plated Brass Base Faucets in Classroom 15 (CF003), Classroom 26 (CF006), Classroom 6 (CF022), and Classroom 7 (CF023)

Replacement of these fixtures with lead-free materials is also recommended.

The remaining six outlets showed sample results of 15 parts per billion or less, requiring no further action or additional recommendations. These faucets/fountains include:

- Kitchen Faucets in the Community Room (CF012), Classroom 2 (KC017), and two in Classroom 1 (KC015 and KC016).
- Integrated Bubbler Faucet in the Classroom 4 restroom (CF018)
- Water Cooler in the hallway east of the Gym (WC011)

Consecutive Sampling Results and Building Plumbing Recommendations

The consecutive samples taken on October 31, 2015, at three sites in the Brownell STEM Academy school building provide additional confirmation that the highest contribution of lead appears to be from the individual faucet/fountains and not from the larger diameter supply plumbing within the school building. However, results from Classroom 17 also suggest that the copper supply line with lead solder joints serving the north hallway in the main wing may contain more stagnant water due to the limited number of fixtures served by this line and their lack of use. A flushing operational procedure may further reduce lead contributions from this supply line caused by stagnant conditions related to its use. Results of the consecutive sample monitoring are listed in the table below.

Consecutive Sample No.	1	2	3	4	5	6	7	8	9	10
LOCATION	LEAD RESULT (PARTS PER BILLION; ND = NOT-DETECTED)									
Classroom 17 Lab Sink Faucet (CF004)	10	3	3	3	2	2	2	2	2	2
Community Room Sink Faucet (CF012)	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Classroom 7 Sink Faucet (CF023)	2	ND	ND	ND	ND	ND	ND	ND	ND	ND

Brownell STEM Academy
6302 Oxley Drive
Flint, Michigan 48504

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.027	Copper	0.14	DW013-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.015	Copper	0.13	DW013-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.008	Copper	0.09	DW013-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.002	Copper	0.00	DW013-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.038	Copper	0.10	DW021-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.027	Copper	0.00	DW021-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	DW021-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.002	Copper	0.00	DW021-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.008	Copper	0.00	CF023-RM #7	P1	First Primary draw of 125 milliliters
Lead	0.012	Copper	0.15	CF023-RM #7	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.06	CF023-RM #7	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	CF023-RM #7	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.016	Copper	0.08	DW014-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.00	DW014-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	DW014-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.001	Copper	0.00	DW014-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.016	Copper	0.18	KC019-RM #4	P1	First Primary draw of 125 milliliters
Lead	0.010	Copper	0.28	KC019-RM #4	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	KC019-RM #4	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	KC019-RM #4	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.033	Copper	0.16	DW020-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.015	Copper	0.12	DW020-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.020	Copper	0.00	DW020-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.002	Copper	0.00	DW020-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.012	Copper	0.14	DW002-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.007	Copper	0.08	DW002-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.004	Copper	0.00	DW002-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.001	Copper	0.00	DW002-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.011	Copper	0.20	CF022-RM #6	P1	First Primary draw of 125 milliliters
Lead	0.006	Copper	0.27	CF022-RM #6	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	CF022-RM #6	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.07	CF022-RM #6	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.009	Copper	0.07	CF006-RM 26	P1	First Primary draw of 125 milliliters
Lead	0.010	Copper	0.15	CF006-RM 26	P2	Second Primary draw of 125 milliliters
Lead	0.004	Copper	0.16	CF006-RM 26	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	CF006-RM 26	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.056	Copper	0.21	CF004-RM 17	P1	First Primary draw of 125 milliliters
Lead	0.029	Copper	0.14	CF004-RM 17	P2	Second Primary draw of 125 milliliters
Lead	0.007	Copper	0.16	CF004-RM 17	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.003	Copper	0.17	CF004-RM 17	F02	Flush Sample taken 2 minutes after First Flush Sample

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.
Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper
1 ppb = 0.001 mg/L

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6302 Oxley Drive
Flint, Michigan 48504

ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.011	Copper	0.14	KC016-RM-#1	P1	First Primary draw of 125 milliliters
Lead	0.003	Copper	0.14	KC016-RM-#1	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.05	KC016-RM-#1	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	KC016-RM-#1	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.013	Copper	0.18	KC017-RM #2	P1	First Primary draw of 125 milliliters
Lead	0.008	Copper	0.18	KC017-RM #2	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.00	KC017-RM #2	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	KC017-RM #2	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.010	Copper	0.09	CF018-RM #4	P1	First Primary draw of 125 milliliters
Lead	0.007	Copper	0.11	CF018-RM #4	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	CF018-RM #4	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	CF018-RM #4	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.007	Copper	0.13	KC015-RM #1	P1	First Primary draw of 125 milliliters
Lead	0.002	Copper	0.27	KC015-RM #1	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	KC015-RM #1	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.002	Copper	0.07	KC015-RM #1	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.031	Copper	0.08	CF005-RM 17	P1	First Primary draw of 125 milliliters
Lead	0.006	Copper	0.07	CF005-RM 17	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.06	CF005-RM 17	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.001	Copper	0.06	CF005-RM 17	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.064	Copper	0.11	DW001-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.004	Copper	0.09	DW001-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.09	DW001-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	DW001-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.023	Copper	0.33	DW009-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.007	Copper	0.09	DW009-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.003	Copper	0.00	DW009-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.002	Copper	0.00	DW009-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.025	Copper	0.19	CF010-RM 27	P1	First Primary draw of 125 milliliters
Lead	0.034	Copper	0.16	CF010-RM 27	P2	Second Primary draw of 125 milliliters
Lead	0.002	Copper	0.00	CF010-RM 27	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	CF010-RM 27	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.164	Copper	2.04	CF007-RM 26	P1	First Primary draw of 125 milliliters
Lead	0.166	Copper	1.74	CF007-RM 26	P2	Second Primary draw of 125 milliliters
Lead	0.015	Copper	0.78	CF007-RM 26	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.001	Copper	0.06	CF007-RM 26	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.007	Copper	0.14	CF003-RM 15	P1	First Primary draw of 125 milliliters
Lead	0.011	Copper	0.11	CF003-RM 15	P2	Second Primary draw of 125 milliliters
Lead	0.001	Copper	0.09	CF003-RM 15	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	CF003-RM 15	F02	Flush Sample taken 2 minutes after First Flush Sample

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ANALYTE	RESULT (mg/L)	ANALYTE	RESULT (mg/L)	Sample Description	Site Code	Site Code Description
Lead	0.000	Copper	0.06	CF012	P1	First Primary draw of 125 milliliters
Lead	0.014	Copper	0.13	CF012	P2	Second Primary draw of 125 milliliters
Lead	0.000	Copper	0.00	CF012	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.000	Copper	0.00	CF012	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.011	Copper	0.56	WC011-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.014	Copper	0.67	WC011-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.014	Copper	0.39	WC011-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.002	Copper	0.06	WC011-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.046	Copper	0.42	DW008-DRINKING	P1	First Primary draw of 125 milliliters
Lead	0.011	Copper	0.10	DW008-DRINKING	P2	Second Primary draw of 125 milliliters
Lead	0.004	Copper	0.00	DW008-DRINKING	F01	Flush Sample taken 30 Seconds after Second Primary Draw
Lead	0.001	Copper	0.00	DW008-DRINKING	F02	Flush Sample taken 2 minutes after First Flush Sample
Lead	0.010	Copper	0.17	CF004 - RM #17	CA1	First Sequential Sample
Lead	0.003	Copper	0.17	CF004 - RM #17	CA2	Second Sequential Sample
Lead	0.003	Copper	0.18	CF004 - RM #17	CA3	Third Sequential Sample
Lead	0.003	Copper	0.19	CF004 - RM #17	CA4	Forth Sequential Sample
Lead	0.002	Copper	0.20	CF004 - RM #17	CA5	Fifth Sequential Sample
Lead	0.002	Copper	0.19	CF004 - RM #17	CA6	Sixth Sequential Sample
Lead	0.002	Copper	0.19	CF004 - RM #17	CA7	Seventh Sequential Sample
Lead	0.007	Copper	0.19	CF004 - RM #17	CA8	Eigth Sequential Sample
Lead	0.002	Copper	0.18	CF004 - RM #17	CA9	Ninth Sequential Sample
Lead	0.002	Copper	0.17	CF004 - RM #17	CA10	Tenth Sequential Sample
Lead	0.002	Copper	0.00	CF012 -	CB1	First Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB2	Second Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB3	Third Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB4	Forth Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB5	Fifth Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB6	Sixth Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB7	Seventh Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB8	Eigth Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB9	Ninth Sequential Sample
Lead	0.000	Copper	0.00	CF012	CB10	Tenth Sequential Sample
Lead	0.002	Copper	0.00	CF023	CC1	First Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC2	Second Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC3	Third Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC4	Forth Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC5	Fifth Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC6	Sixth Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC7	Seventh Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC8	Eigth Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC9	Ninth Sequential Sample
Lead	0.000	Copper	0.00	CF023	CC10	Tenth Sequential Sample

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting.
Results in RED exceed 15 ppb for lead or 1.3 ppm for Copper
1 ppb = 0.001 mg/L

From: Thelen, Mary Beth (DEQ)
Sent: Tuesday, December 08, 2015 6:55 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Anderson, Madhu (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Epkey, Amy (DEQ)
Cc: Wilcox, Candra (DEQ);Feuerstein, Heather (DEQ);Copen, Leigh (DEQ);Shaler, Karen (DEQ)
Subject: Copy of letter from Joan Rose - For DEQ Monday Morning Group - FYI.
Attachments: Flint Water Quality Assessment Letter.doc

Dear Monday Morning 8:00 Leadership Team:

At Monday's meeting the Director asked that I send you a copy of what Joan Rose sent to Kildee. Joan sent this to the Director on November 30, 2015.
FYI for you.

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Monday, November 30, 2015 4:37 PM
To: Thelen, Mary Beth (DEQ)
Subject: : Meeting with Director Dan Wyant

Hello Mary Beth.

Can you pass this on to Dan. He wanted a copy of this letter. I sent this before the decision to switch back to Detroit water.

Joan

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/

http://cws.msu.edu/

MICHIGAN STATE
UNIVERSITY

Oct. 1, 2015

Honorable Congressman Dan Kildee
5th District of Michigan
Flint MI

Dear Congressman Kildee

I am a public health water microbiologist and hold the Homer Nowlin Chair in Water Research at Michigan State University and my expertise involves water quality and health. I am a member of the National Academy of Engineering and I have served as Chair of the Drinking Water Committee, (2004-2010) Science Advisory Board of the US Environmental Protection Agency,

I am preparing this short letter in regard to my assessment of the water quality and health issues in Flint. I have reviewed Dr. Marc Edwards' proposal, methods and results for lead. I have been in discussion with the County Health Department and reviewed the health issues. I have served on the Technical Advisory Committee for the City of Flint and have read the reports provided by Veolia and the City. I have been involved since January, 2015.

I will attempt to address five critical questions.

1. Is there a water quality problem in Flint?
2. How well is the problem understood?
3. What water quality testing should be done?
4. How can the state help the citizens of Flint?
5. How do we restore water quality and wholesomeness, protect public health and restore confidence?

DEPARTMENT OF
FISHERIES AND WILDLIFE

Michigan State University
13 Natural Resources Building
East Lansing, MI
48824-1222
517/355-4478
FAX: 517/432-1699

1. Is there a water quality problem in Flint?

In the US and in Michigan we pride ourselves not only on our safe drinking water meeting the national *Safe Drinking Water Act*, (*SDWA*) health based primary standards but on the wholesomeness of the water with high expectations associated with taste, odor and appearances. The *SDWA* however does not cover all of our water quality issues particularly in regard to the piping and plumbing system that makes up what is called the distribution system. **It has been well documented that when one changes the source water one can change the quality of the finished water at the tap due to the chemical, biological and physical conditions of the distribution system.** See "The Rise and Fall of the CAP: What went wrong with Tucson's Water Delivery of the CAP" http://academic.engr.arizona.edu/HWR/Fall02/Stacy/CAP_Project/Documents/AZDS_Rise_Fall_of_CAP.pdf

There is no doubt that Flint had and still has a drinking water quality problem and this is effecting the health and wellbeing of the residents. The violations of the *SDWA* are well documented.

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- In the summer of 2014, the first health violation was the finding of *E.coli* which mandates a boil order due to the potential for acute infectious disease risks associated with fecal contamination. This bacteria mandates that immediate action is taken which is why boil orders are issued and after which the treatment including disinfection must be examined.
- Following this were the violations of the disinfection- by-products standards for Total Trihalomethane TTHMs as a result of misbalance of the disinfection process where chlorine reacts with organics and forms these by-products. This is known as a chronic health risk in which long term exposure to these TTHMs may be a source of cancer.
- In addition the wholesomeness of the water in key areas of the city was clearly effected, with red and cloudy water emerging from the taps was probably due to iron sloughing from the pipes. With iron other things also come off the pipes, including lead and microbes.
- The public complained of skin irritation and illnesses which were never diagnosed. However *Legionella* infections (a waterborne pathogen) increased.

It is not a coincidence that this was associated with the change in the source water (higher hardness, more chlorides, more fecal pollution in the Flint River compared to Lake Huron). By the time winter came around and the weather changed and the temperatures went down, some of the issues abated. The Water Utility took on extensive changes in design, treatment and operations to decrease the *SDWA* violations. There was a sense of urgency to address the water quality before the spring and summer as warmer temperatures exacerbate these problems. While dollars were provided for treatment changes and upgrades, less funds were allocated toward monitoring the distribution system. Dr. Marc Edwards from Virginia Tech University an internationally renowned scientist associated with plumbing and water quality issues received funds from the National Science Foundation and began monitoring and has found high levels of lead in the tap water. He set up a web site for his data [http://flintwaterstudy.org/]. The health department has seen cases of *Legionella* continue and now lead blood levels have been found in children. **Many of the public still have water which is not drinkable despite meeting standards, thus wholesome and safe water is not being provided to all the citizens of Flint. This is not the intention of the *SDWA*.**

2. How well is the problem understood?

The science and mechanisms of dissolution of materials like minerals, iron, biofilms which accumulate on a pipe are understood. The role of Chlorides associated with corrosion are known. *The Lead and Copper Rule* was designed to address the leaching of lead from the distribution system and mandated a very specific monitoring program.
http://water.epa.gov/drink/ndwac/upload/lcrwgmeetsumaxd32514.pdf

Yet when it comes to the real-world distributions systems, the older infrastructure, the complex nature of the spatial network is not easy for the water industry to predict and anticipate the problems. There is a great deal of focus on meeting the primary health standards of the *SDWA* and rightly so, but for smaller utilities R&D, extra monitoring is not undertaken thus when problems emerge, it becomes a reactive cycle. When and where will lead show up in your glass of water are difficult questions to answer.

Biofilms which support *Legionella* is also not well described in most water systems. *Legionella* infections only come from piped water, it is a waterborne disease. But often we do not know where exactly the bacteria are impacting the public. While cooling towers have often been the primary culprit, water fountains and shower heads have also been implicated. Often the disease shows up in those most vulnerable and hospitals are definitely at risk, and thus water systems in hospitals require specific attention.

- There are enough data to better define the problems but all of the information has not been pulled together and synthesized. This includes public complaints, water quality data from the recent lead monitoring, as well as *Legionella* infections. This would include disinfection residuals, heterotrophic bacteria counts, as well as iron and other water quality parameters. If there is to be efforts to fix any of the pipes and distribution system that means that mapping of the lead data as well as the other water quality information is needed.

3. What water quality testing should be done?

Water testing is one in which the issues of i. where you sample, ii. when you sample, iii. how you sample and iv. how many samples you take influence the results. One can bias the results by taking too few samples and by sampling at a place and time when the results are likely to be high or low. It is clear that the citizens of Flint wanted their water tested as 252 kits were returned out of 300 to Dr. Marc Edwards. The methods used by Dr. Edwards follow those recommended by the *Lead and Copper Rule (*USEPA).

The water testing in Flint needs to be diagnostic not focused on a regulatory goal. This means more extensive testing is needed to identify the issues and problems. I stated in an email January 22, 2015, to Mr. Howard Croft, the mayor and other officials "I definitely think more testing for hardness, iron, TDS, *E.coli* maybe lead from people who are having aesthetic issues is needed."

Added to this list would be corrosivity, heterotrophic bacteria and *Legionella*. The sampling should be targeted to where they think the problems are and enough samples in time and space need to be collected to ensure the negative result is meaningful.

4. How can the state help the citizens of Flint?

There is a need for an immediate solution as well as a long term repair. Because this is a public health issue the MI Department of Community Health should immediately assist the county health unit. All citizens effected should be provided with filters that remove lead. This I believe was done in Lansing. Water can be bottled at the plant and provided to those who need potable and wholesome water. Work should begin immediately to address *Legionella* in hospitals and other buildings where vulnerable people are at risk. Dr. Janet Stout would be extremely helpful in this regard.

More testing is needed. Things again will calm down during the winter months as things warm up in 2016 the problems could re-emerge.

The state revolving funds should be used and emergency/disaster funds requested as this is a public health issue.

It is not clear how fast the water quality will improve if Flint begins using Lake Huron water either from Detroit or as their new intake is built. This should be investigated.

Long term a full assessment of the distribution system is needed. It will take time and money to restore the piping system thus the worst areas should be tackled first. Thus a plan that establishes a priority based on age of the distribution system and water quality should be formulated along with the timeline.

5. How do we restore water quality and wholesomeness, protect public health and restore confidence?

Flint is an example of what many cities may be facing in the future. New sources of water are needed for many locales either due to scarcity growth or cost. The aging infrastructure has already been noted by the American Society of Civil Engineering. In particular distribution systems need to be rehabilitated which means that time and money must be spent on assessment and then "fixing" the problems. This crisis is an opportunity to step up and do the right thing for City of Flint and for the State. Just as the *Cryptosporidium* outbreak in Milwaukee led to changes at the national level for safe drinking water, it also led to significant changes for the city and now they have emerged as a leader developing the Global Water Center http://www.thewatercouncil.com/global-water-center/. In Canada the outbreak of *E.coli* 0157H7 and *Campylobacter* led to changes in groundwater rules throughout the provinces and the Walkerton Clean Water Centre https://www.wcwc.ca/en/.

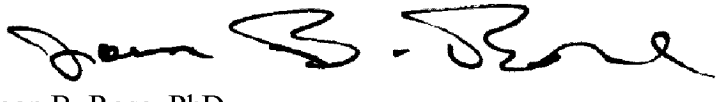
These tragedies where whole communities were effected and children died as a result of water contamination were not associated with some failure of "Standards" but a failure to examine the data, address new emerging concerns/contaminants and to pay attention to management of the water treatment processes.

To rebuild confidence will take years along with honest communications and some short term immediate help for the citizens of Flint.
The state should put together an Independent panel that could address the short term and long term assessment and solutions not just for Flint but for other cities. How can addressing the problems in Flint facilitate the Michigan water strategy?

I hope that this short write up helps.

Please let me know if you have any further questions.

Sincerely,



Joan B. Rose, PhD
Homer Nowlin Chair in Water Research
Michigan State University
13 Natural Resources
E. Lansing MI 48824
517-432-4412 (ph)
517-432-1699 (fax)
rosejo@msu.edu

From: Wyant, Dan (DEQ)
Sent: Friday, December 11, 2015 8:13 AM
To: Krisztian, George (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Fwd: Flint Briefing 9Dec15
Attachments: ATT00001.htm

Sent from my iPhone

Begin forwarded message:

> **From:** "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>
> **Date:** December 11, 2015 at 6:45:05 AM CST
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
> **Cc:** "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>
> **Subject: Fwd: Flint Briefing 9Dec15**
>
> Dan - Here is the latest from DHHS.
>
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Subject: Flint Briefing 9Dec15

Sending on behalf of the PHCSA:

Attached is the MDHHS daily situation report for the Flint water lead project.

Thanks,

Janese Bouters
Executive Secretary to Corinne Miller
Bureau of Disease Control, Prevention and Epidemiology
Michigan Department of Health & Human Services
201 Townsend Street
Lansing, Michigan 48913
Phone: (517) 335-8731
Fax: (517) 335-8263

This Document is a Non-Responsive Attachment.

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, December 11, 2015 12:16 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ);Krisztian, George (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of December 7, 2015
Attachments: E-Clips 120715.pdf

DEQ e-clips

Week of December 7, 2015

Other News Articles

Detroit Free Press: Oil spill, high waves: A Great Lakes disaster scenario
http://www.freep.com/story/news/local/michigan/2015/12/05/enbridge-pipeline-straits-mackinac-oil-spill-waves/76728434/

U.S. House passes microbead legislation
http://www.freep.com/story/news/local/michigan/2015/12/07/us-house-passes-microbead-legislation/76947570/

Pipeline bill would give Great Lakes greater protection
http://www.freep.com/story/news/local/michigan/2015/12/09/great-lakes-protection-us-senate-pipeline-bill/77037602/

Detroit News: U.S. House approves bill to ban plastic microbeads
http://www.detroitnews.com/story/news/politics/2015/12/07/house-bill-ban-plastic-microbeads/76952400/

MLive: Oil spill leaves dead animals, possible $250,000 cleanup bill
http://www.mlive.com/news/flint/index.ssf/2015/12/oil_spill_leaves_dead_animals.html

Great Lakes would be 'high consequence' area under pipeline bill
http://www.mlive.com/news/index.ssf/2015/12/great_lakes_would_be_high_cons.html#incart_river_index

Michigan Radio: State to remove 450 chemicals from list of 1200 toxic chemicals requiring modeling
http://michiganradio.org/post/state-remove-450-chemicals-list-1200-toxic-chemicals-requiring-modeling

Big waves would cripple Enbridge's ability to respond to Line 5 leak, experts say
http://michiganradio.org/post/big-waves-would-cripple-enbridges-ability-respond-line-5-leak-experts-say

Report finds coal burning in Asia leading to increased mercury in some Great Lakes fish
http://michiganradio.org/post/report-finds-coal-burning-asia-leading-increased-mercury-some-great-lakes-fish

Midland Daily News: Chemicals removed from abandoned lab in Midland
http://www.ourmidland.com/police_and_courts/chemicals-removed-from-abandoned-lab-in-midland/article_4d4c02cb-555a-57be-ad51-27357fd979f9.html

The News Herald: State settles litigation with owners of Flat Rock housing community
http://thenewsherald.com/articles/2015/12/11/news/doc5669c280c97ea034537205.txt

The Voice: Canada extends decision on nuclear waste dump for another 90 days
http://www.voicenews.com/articles/2015/12/07/news/doc5661dcfba68ec040823188.prt

Wisconsin Gazette: Waukesha diversion of Lake Michigan water moves forward
http://www.wisconsingazette.com/environment/waukesha-diversion-of-lake-michigan-water-moves-forward.html

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

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Sent: Friday, December 11, 2015 12:20 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Krisztian, George (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of December 7, 2015
Attachments: Week of 120715 Flint Water E-Clips.pdf

DEQ e-clips

Week of December 7, 2015

Flint and Other Water Stories

Detroit News: Loan forgiveness sought for Flint to replace lead pipes
http://www.detroitnews.com/story/news/politics/2015/12/06/loan-forgiveness-sought-flint-replace-lead-pipes/76845170/

MLive: Water tests conducted at Flint homes by Wayne State University researchers
http://www.mlive.com/news/flint/index.ssf/2015/12/water_tests_conducted_at_flint.html#incart_river_index

Kildee: Forget firings and apologies in water crisis, take care of Flint kids
http://www.mlive.com/news/flint/index.ssf/2015/12/kildee_says_firings_apologies.html

Crusading Flint doctor says 'we're not done' fighting fallout of lead in water
http://www.mlive.com/news/flint/index.ssf/2015/12/crusading_flint_doctor_says_we.html#incart_river_index

More lead in plumbing found at Flint's Brownell school, state report says
http://www.mlive.com/news/flint/index.ssf/2015/12/state_report_identifies_more_l.html

Rosemarie Olszewski
General Office Assistant - Executive Division

Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of December 7, 2015

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Crusading Flint doctor says 'we're not done' fighting fallout of lead in water
http://www.mlive.com/news/flint/index.ssf/2015/12/crusading_flint_doctor_says_we.html#incart_river_index

More lead in plumbing found at Flint's Brownell school, state report says
http://www.mlive.com/news/flint/index.ssf/2015/12/state_report_identifies_more_l.html

From: Thelen, Mary Beth (DEQ)
Sent: Friday, December 11, 2015 12:34 PM
To: Krisztian, George (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Cc: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ)
Subject: RE: Flint Briefing 9Dec15
Attachments: Fwd: Flint Briefing 9Dec15

Please see attached.

Karen for MBT

From: Krisztian, George (DEQ)
Sent: Friday, December 11, 2015 8:15 AM
To: Wyant, Dan (DEQ); Sygo, Jim (DEQ); Wurfel, Brad (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: RE: Flint Briefing 9Dec15

Director,

The attachment did not come through.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

From: Wyant, Dan (DEQ)
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To: Krisztian, George (DEQ); Sygo, Jim (DEQ); Wurfel, Brad (DEQ)
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Subject: Fwd: Flint Briefing 9Dec15

Sent from my iPhone

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> **Cc:** "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>
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>
> Dan - Here is the latest from DHHS.

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Date: December 10, 2015 at 12:38:58 PM EST
To: "Anderson, Paula (DHHS)" <AndersonP3@michigan.gov>, "Barr, Jacqui (DHHS)" <BarrJ3@michigan.gov>, "Becker, Timothy (DHHS)" <beckert1@michigan.gov>, "Bruneau, Michelle (DHHS)" <BruneauM@michigan.gov>, "Colston, Leslie (DHHS)" <ColstonL@michigan.gov>, "DeMyers, Deborah (DHHS)" <DeMyersD@michigan.gov>, "Dykema, Linda D. (DHHS)" <DykemaL@michigan.gov>, "Eggleston, Debbie (DHHS)" <egglestond@michigan.gov>, "Eisner, Jennifer (DHHS)" <EisnerJ@michigan.gov>, "Granger, Patricia (DHHS)" <GrangerP@michigan.gov>, "Grijalva, Nancy (DHHS)" <GrijalvaN@michigan.gov>, "Groetsch, Kory J. (DHHS)" <GroetschK@michigan.gov>, "Harvey, Janice (DHHS)" <HarveyJ1@michigan.gov>, "Hertel, Elizabeth (DHHS)" <HertelE@michigan.gov>, "Kaiser Van Dam, Paula (DHHS)" <KaiserP@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>, "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>, "McKane, Patricia (DHHS)" <McKaneP@michigan.gov>, "Miller, Corinne (DHHS)" <MillerC39@michigan.gov>, "Miller, Mark (DHHS)" <millerm1@michigan.gov>, "Minicuci, Angela (DHHS)" <MinicuciA@michigan.gov>, "Moran, Susan (DHHS)" <MoranS@michigan.gov>, "Peeler, Nancy (DHHS)" <PeelerN@michigan.gov>, "Priem, Wesley F. (DHHS)" <priemw@michigan.gov>, "Priest, Chris (DHHS)" <PriestC1@michigan.gov>, "Ridley, Nancy (DHHS)" <RidleyN@michigan.gov>, "Robinson, Mikelle (DHHS)" <RobinsonM18@michigan.gov>, "Rockefeller, Cheryl (DHHS)" <RockefellerC@michigan.gov>, "Scott, Jackie (DHHS)" <ScottJ14@michigan.gov>, "Shah, Sandip (DHHS)" <shahs@michigan.gov>, "Sims, Teri (DHHS)" <SimsT2@michigan.gov>, "Stanbury, Martha (DHHS)" <stanburym@michigan.gov>, "Stiffler, Kathleen A. (DHHS)" <StifflerK@michigan.gov>, "Taylor, Kerri (DHHS)" <TaylorK10@michigan.gov>, "Thompson, Sheryl D. (DHHS)" <ThompsonS2@michigan.gov>, "Titus, Laura (DHHS)" <TitusL@michigan.gov>, "Travis, Rashmi (DHHS)" <TravisR@michigan.gov>, "Wells, Eden (DHHS)" <WellsE3@michigan.gov>
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Sending on behalf of the PHCSA:

Attached is the MDHHS daily situation report for the Flint water lead project.

Thanks,

Janese Bouters
Executive Secretary to Corinne Miller
Bureau of Disease Control, Prevention and Epidemiology
Michigan Department of Health & Human Services
201 Townsend Street
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To: Wyant, Dan (DEQ)
Cc: Lasher, Geralyn (DHHS)
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Attachments: ATT00001.htm; 2015-12-09 - Flint Lead MDHHS Sitrep.pdf; ATT00002.htm

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Flint Water Lead Project

Michigan Department of Health and Human Services
Situation Report for December 9, 2015

NOTE: Contains potentially identifiable information- REDACT AS INDICATED
New items for the day listed first and in bold print.

Daily Briefing and Situation Report prepared by Linda Dykema

Surveillance Indicators: People Tested 10/1/2015 to 12/4/2015: 1,836;
Children less than 6 years old ≥ 5 µg/dl since 10/1/2015: 19
Children 6 to 17 years old ≥ 5 µg/dl since 10/1/2015: 8
Adults 18 years and older ≥ 5 µg/dl since 10/1/2015: 12
Severity Indicators: Hospitalized/Discharged-1/1; Deaths- 0

DAILY ACTIVITY SUMMARY

Elevated Blood Level (EBL) Environmental Investigations – ETC Contractors, Wes Priem, Courtney Wisinski

- 5 EBL investigations completed.
- **10 investigations scheduled.**
- EBL investigation for high EBLL home completed on Friday 12/4/15. Unpaid taxes must be resolved to qualify for Lead Safe Home abatement. Project staff will work with family to resolve.

MDHHS/Genesee County Health Department (GCHD) Case Management (CM) Services – Nancy Peeler

- CM report through 12/04/15:
  - # of contacts attempted: 171
  - # offered CM: 68
  - # CM started: 10
  - # of children receiving CM who live in Flint: 10
  - # billed to Medicaid: 3
  - # other disposition: 4 (3 children moved to Oakland County, 1 to Tuscola County): Working with M. Miller and Counties to set up CM for children that have moved out of Flint.
- Held weekly status call with GCHD CM staff. CM nurses are encountering multiple complexities in gaining access to families/homes including: family has moved out of Flint; parent needs to get permission from property owner (sometimes other relative) before allowing home visits, requests for more information and time to make a decision; some families don't want a 6 hour visit for both CM and environmental investigation. HHS project staff will discuss options on 12/10/15.
- Child with EBLL of 52 µg/dl: blood level has decreased to 28 µg/dl per confirmed lab report.

Epidemiology/Surveillance – Patti McKane, Martha Stanbury, Bob Scott, Jessica Cooper, Karen Lishinski

- **Forwarded Data Use Agreement with Hurley Medical Center for HHS legal review.**
- Compiled Flint blood lead testing data through 12/4/2015. Final draft report conveyed to HHS Communications.
- Preparing 2014 lead surveillance data by Michigan zip code in response to media requests.
- EPA, CDC, MDHHS, local health department call scheduled for later this week to discuss Legionellosis.

Filter Distribution Sheryl Thompson

- November Distribution
  - 778 Filters
  - 63 Pitchers
  - 924 Replacement Filters
- Total Distribution since October 1, 2015
  - 10,951 Filters
  - 184 Pitchers
  - 924 Replacement Filters

Communications/Information Sharing – Linda Dykema, Eden Wells

- Weekly (Tues. 8:00 am) coordination call with DEQ/LARA/HHS.

Health Education Resources Updates - Michelle Bruneau, Emily Houk

- **Continuing to write and coordinate additions to the EBL Case Manager Binder, now known as the MDHHS Lead Safe Family Guide Book.**
- **Filled out publications forms for Phosphate fact sheet and Bath Time poster and submitted for approval on 12/9.**
- Pending: Aerator/Filter Maintenance Fact Sheet; Flint Parent Letter re-do in partnership with Emily Houk.

Toxicology - Kory Groetsch, Jennifer Gray

- **Met with Genesee County Health Department staff to discuss phosphate public health questions.**
- Revised EBL Investigation water sampling protocol in response to EPA comments and conveyed to DEQ.
- Collaborating with Surveillance, CM, and EBL response staff to develop a Data Dictionary and Database to track services provided to EBL children/families.

WIC

- Letter sent 11/24 to GCHD about Ready-to-feed formula availability from WIC program
- Talking points for WIC staff and for providers shared

Healthcare/Providers

- Drafted HAN to Flint healthcare providers for review by the project communications team and GCHD. The HAN encourages enhanced BLL testing for children less than six, particularly outside of the 1 and 2 years of age that are required by Medicaid.

DEQ Information - Linda Dykema as Liaison

- **DEQ is requesting Phosphate fact sheet as phosphate dosing of Flint water has started.**
- DEQ has requests to test 8 more Flint area schools. Testing will take place after all Flint public school buildings are completed in late December.
- DEQ developing a plan to retest school fixtures after replacement.

From: Wyant, Dan (DEQ)
Sent: Friday, December 11, 2015 5:43 PM
To: Krisztian, George (DEQ)
Cc: Wurfel, Brad (DEQ)
Subject: Re: FOLLOW UP QUEST

Excellent. Thanks.

Sent from my iPhone

On Dec 11, 2015, at 2:53 PM, Krisztian, George (DEQ) <krisztiang@michigan.gov> wrote:

> I just got back from Flint and have another meeting to attend. I can come in Sunday morning and work up a response and submit to you both for comment. Please let me know if that is an acceptable time frame.
>
> George
>
> George L. Krisztian
> Flint Action Plan Coordinator
> Laboratory Director
> Michigan Department of Environmental Quality
> Desk ph (517) 284-6719
> **Cell ph** **PPI**
>
> ---
>
> **From:** Wyant, Dan (DEQ)
> **Sent:** Friday, December 11, 2015 12:49 PM
> **To:** Wurfel, Brad (DEQ)
> **Cc:** Krisztian, George (DEQ)
> **Subject:** Re: FOLLOW UP QUEST
>
> I agree.
>
> Sent from my iPhone
>
> On Dec 11, 2015, at 11:21 AM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:
>
> > Director, if any of use respond, I suggest probably best George.
> > b
> > Brad Wurfel
> > Communications Director,
> > Michigan Department of Environmental Quality
> > wurfelb@michigan.gov
> > **PPI** (cell)
> >
> > ---
> >
> > **From:** Lori Gliha [mailto:Lori.Gliha@aljazeera.net]
> > **Sent:** Friday, December 11, 2015 11:36 AM
> > **To:** Wyant, Dan (DEQ)

Cc: Wurfel, Brad (DEQ); Sameen Amin
Subject: FOLLOW UP QUEST

Dear Mr. Wyant,

Thank you again, for sitting down with us for an interview regarding the water crisis in Flint.

I have a couple of quick questions to clarify if you can please help answer these today:

1 – What is the current method that the state is using to test the water in Flint?

How, specifically, is it different (or the same as) the testing that occurred prior to the public recognition of a lead risk in the water?

Does pre-flushing occur now?

Is the state using wide-mouthed bottles or narrow bottles?

Is the water sampled at a slow rate as it is coming from the faucet?

2 –When you admitted a mistake in the "proper protocol," in October, were you referencing more than one specific protocol, or just the lack of corrosion control?

Thank you!

Sincerely,
Lori Jane Gliha
America Tonight
Al Jazeera America
(202) 997-1382

Notice. This email and any files transmitted with it are intended only for the use of the individuals or entities to whom they are addressed and may contain information that is confidential and privileged. If you have received this email in error, please notify the sender as soon as possible and delete this email from your system. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this email is strictly prohibited. Opinions, conclusions and other information in this message that do not relate to the official business of Al Jazeera shall be understood as neither given nor endorsed by Al Jazeera.

From: Wyant, Dan (DEQ)
Sent: Monday, December 14, 2015 3:30 PM
To: Lori Gliha (Lori.Gliha@aljazeera.net)
Cc: Wurfel, Brad (DEQ);Krisztian, George (DEQ)
Subject: FW: FOLLOW UP QUESTIONS
Attachments: Resident_Sampling_Instructions-12-11-2015_508290_7.pdf

Importance: High

Dear Lori,

Per your email questions of December 11, 2015, we are providing you with the following answers:

Your Questions:
1 – What is the current method that the state is using to test the water in Flint?
How, specifically, is it different (or the same as) the testing that occurred prior to the public recognition of a lead risk in the water?
Does pre-flushing occur now?
Is the state using wide-mouthed bottles or narrow bottles?
Is the water sampled?
In our interview, you said the following, "Simply said, the protocol that we were using - I do not believe it is protective of public health and therefore more needs to be done in our testing protocol to ensure that we're identifying risk. We're addressing lead exposure and we are dealing with the issue proactively. Flint deserves safe drinking water."
Are you referring to the method by which the state was testing for lead in the water when you use the word protocol in this statement?

Department of Environmental Quality (DEQ) Answers:
It is important to note that the protocol that the DEQ utilizes for assessing corrosion control is compliant with the lead and copper rule. The lead and copper rule does not include requirements with respect to issues such as bottle mouth size, flow rate and other such issues.

We have recently revised the sampling instructions and submitted them to the United States Environmental Protection Agency (U.S. EPA) for review. The U.S. EPA has since reviewed the instructions and has indicated that they agree with the revised instructions. A copy of these instructions is attached for your convenience.

We understand that there has been some discussion regarding flow rates and other related sampling issues and we will be evaluating these factors in a scientific manner to determine what, if any, affect these variables have. We believe that an open peer review investigation of these issues with samples analyzed by a lab certified under the auspices of the Safe Drinking Water Act is the best way for everyone to benefit. There are many partners involved in this issue and we want to ensure that the voices of all affected parties are represented.

Finally it is important to understand that corrosion control evaluations and sampling for health exposure assessments are not the same thing. The protocols that have been developed for the testing of the schools and for home exposure investigations are very extensive. These protocols

utilize many samples at one location and are specifically designed to evaluate sources of lead within that school or home. These sources may include lead service lines, lead solder, brass fixtures that contain lead and other potential sources.

Your Question:
2 – When you admitted a mistake in the "proper protocol," in October, were you referencing more than one specific protocol, or just the lack of corrosion control?

DEQ Answer:
The mistakes that were made were primarily with respect to the tone that was used initially in our responses. The U.S. EPA has stated that there are ambiguities in the lead and copper rule and that the rule was open to interpretation. Both the sampling and corrosion control evaluation process were acceptable under the lead and copper rule.

We are currently focused on moving forward. We have developed a plan for moving forward and we are well on our way. We look forward to working with all of our partners so that the faith of the residents of Flint can be restored.

If you have need any further information, please let me know.

Thank you.

Dan Wyant
Director
517-284-6700

From: Lori Gliha [mailto:Lori.Gliha@aljazeera.net]
Sent: Friday, December 11, 2015 11:36 AM
To: Wyant, Dan (DEQ)
Cc: Wurfel, Brad (DEQ); Sameen Amin
Subject: FOLLOW UP QUEST

Dear Mr. Wyant,

Thank you again, for sitting down with us for an interview regarding the water crisis in Flint.

I have a couple of quick questions to clarify if you can please help answer these today:

1 – What is the current method that the state is using to test the water in Flint?

How, specifically, is it different (or the same as) the testing that occurred prior to the public recognition of a lead risk in the water?

Does pre-flushing occur now?

Is the state using wide-mouthed bottles or narrow bottles?

Is the water sampled at a slow rate as it is coming from the faucet?

2 –When you admitted a mistake in the "proper protocol," in October, were you referencing more than one specific protocol, or just the lack of corrosion control?

Thank you!

Sincerely,
Lori Jane Gliha
America Tonight
Al Jazeera America
(202) 997-1382

==========

From: Lori Gliha <Lori.Gliha@aljazeera.net>
Date: December 11, 2015 at 10:52:44 AM CST
To: "WYANTD@MICHIGAN.GOV" <WYANTD@MICHIGAN.GOV>
Cc: "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, Sameen Amin <sameen.amin@aljazeera.net>
Subject: one additional question...

Hi Mr. Wyant,

In addition to the last email I sent, I wanted to clarify one more comment you made to make sure I clearly understand to which "protocol" you were referring.

In our interview, you said the following, "Simply said, the protocol that we were using - I do not believe it is protective of public health and therefore more needs to be done in our testing protocol to ensure that we're identifying risk. We're addressing lead exposure and we are dealing with the issue proactively. Flint deserves safe drinking water."

Are you referring to the method by which the state was testing for lead in the water when you use the word protocol in this statement?

Thank you for your help with these three questions.
Our story is scheduled to air December 16, at 9:30pm.

Sincerely,

Lori Jane Gliha
America Tonight
Al Jazeera America
(202) 997-1382

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DRINKING WATER LEAD AND COPPER SAMPLING INSTRUCTIONS

Dear Resident:

Thank you for helping to monitor for lead and copper in your drinking water. This sampling is required by the federal and state Safe Drinking Water Acts, and is being accomplished with the cooperation of homeowners, residents, and water system customers.

It is important that you follow these instructions so we obtain an accurate measurement of the lead and copper in your drinking water. This sample should represent the water you would typically drink and the faucet from where you drink the water. Select a faucet for sampling that was used the day before you intend to sample. Call your water supply if you have questions.

1. Water must sit idle in the pipes for an extended length of time before sampling. Therefore, do not use any water in the house for at least 6 hours before sampling. The best times to sample are early morning or after returning from work.

2. Select an unfiltered/untreated faucet in the **KITCHEN** or **BATHROOM** that is commonly used for drinking. **DO NOT** sample from a laundry sink or a hose spigot as these samples cannot be used for compliance. **DO NOT** use a faucet that has a filter attached to it unless you bypass the filter. **DO NOT** use a faucet that is connected to a home water treatment device (like a water softener, iron filter, reverse osmosis) unless you bypass the home water treatment device.

3. Place the open sample bottle below the faucet and gently open the **COLD** water tap. If you have a single handle faucet, turn it fully to the **COLD** side. Fill the sample bottle to the neck with the "first draw" of **COLD** water.

4. Tightly cap the sample bottle and place in the sample kit provided. Review the sample kit label to ensure all information contained on the label is complete and correct.

5. Answer the questions on the back of this form and sign the form.

6. Attach this form to the bottle and leave it outside your front door for pick-up.

7. Thank you again for your help. We will send you your individual results within 30 days of receiving them from the laboratory. A summary of information on this year's lead and copper monitoring will be printed in the annual water quality report that will be made available by July 1 of next year. Contact your water supply if you have questions.

If you have questions call:
Water Supply: _____

Manager or
Water Operator: _____

Phone: _____

Or Contact:
Michigan Department of Environmental Quality

DEQ Contact: _____

Phone: _____

(rev. 12/2015)

TO BE COMPLETED BY RESIDENT/CUSTOMER

A. Which faucet did you use to fill the bottle?

☐ Kitchen ☐ Main bathroom ☐ Other

If OTHER, please describe: _____

_____

B. When was the faucet last used before sampling?

Date _____ TIME _____ AM/PM

Note: If the faucet has been idle more than 24 hours, we might not analyze your sample or be able to use your sample for compliance purposes.

C. When did you fill the bottle?

DATE _____ TIME _____ AM/PM

D. Is there a faucet mount filter? ☐ YES ☐ NO

If YES, was it bypassed? ☐ YES ☐ NO

E. Is this faucet connected to a home treatment device such as a water softener, a reverse osmosis unit, an iron removal device OR is any kind of additive used in the home? ☐ YES ☐ NO

If YES, please describe: _____

_____

Note: If you have a home treatment device OR any kind of additive is used, it is possible we might not analyze your sample or be able to use your sample for compliance purposes.

F. If any plumbing repairs or replacement has been done in the home since the previous sampling event, please note this information here:

If YES, please describe: _____

_____

I have read the Drinking Water Lead and Copper Sampling Instructions and have taken a tap sample in accordance with these directions.

_____

Signature

From: Wyant, Dan (DEQ)
Sent: Monday, December 14, 2015 3:42 PM
To: Lori Gliha (Lori.Gliha@aljazeera.net)
Cc: Wurfel, Brad (DEQ);Krisztian, George (DEQ)
Subject: FW: FOLLOW UP QUESTIONS
Attachments: Resident_Sampling_Instructions-12-11-2015_508290_7.pdf

Importance: High

Dear Lori,

This is in response to your second email of December 11, 2015, please see below.

Your Questions
In our interview, you said the following, "Simply said, the protocol that we were using - I do not believe it is protective of public health and therefore more needs to be done in our testing protocol to ensure that we're identifying risk. We're addressing lead exposure and we are dealing with the issue proactively. Flint deserves safe drinking water."
Are you referring to the method by which the state was testing for lead in the water when you use the word protocol in this statement?

DEQ Answer:
What was meant by this statement is that the lead and copper rule, as written, was designed to assess the effectiveness of corrosion control measures utilized by a water supply. It was not designed to determine individual health exposure risks.

As a result the DEQ has become very proactive in engaging all of our partners to address health exposure concerns. The testing that is currently being done in the Flint Schools is very rigorous and goes well beyond any regulatory requirements. We typically take approximately 200-300 samples at each school in a single sampling event. We are evaluating the water mains, the piping throughout the building as well as the components used such as the solder and fixtures. The good news is that the testing so far indicates that the issues in the schools are predominantly fixture related and they are not deep in the plumbing, so the fixes are going to be relatively straight forward.

Once we have completed our evaluation we will use what we have learned to create guidance for all of the schools in the State of Michigan. In addition we will share our information with the U.S. EPA and we will partner with them to develop protocols that go beyond corrosion control and focus on health exposure.

Thank you.

Dan Wyant
Director
517-284-6700

From: Wyant, Dan (DEQ)
Sent: Monday, December 14, 2015 3:30 PM

To: Lori Gliha (Lori.Gliha@aljazeera.net)
Cc: Wurfel, Brad (DEQ); Krisztian, George (DEQ)
Subject: FW: FOLLOW UP QUESTIONS
Importance: High

Dear Lori,

Per your email questions of December 11, 2015, we are providing you with the following answers:

Your Questions:
1 – What is the current method that the state is using to test the water in Flint?
How, specifically, is it different (or the same as) the testing that occurred prior to the public recognition of a lead risk in the water?
Does pre-flushing occur now?
Is the state using wide-mouthed bottles or narrow bottles?
Is the water sampled?
In our interview, you said the following, "Simply said, the protocol that we were using - I do not believe it is protective of public health and therefore more needs to be done in our testing protocol to ensure that we're identifying risk. We're addressing lead exposure and we are dealing with the issue proactively. Flint deserves safe drinking water."
Are you referring to the method by which the state was testing for lead in the water when you use the word protocol in this statement? (Please see second email response)

Department of Environmental Quality (DEQ) Answers:
It is important to note that the protocol that the DEQ utilizes for assessing corrosion control is compliant with the lead and copper rule. The lead and copper rule does not include requirements with respect to issues such as bottle mouth size, flow rate and other such issues.

We have recently revised the sampling instructions and submitted them to the United States Environmental Protection Agency (U.S. EPA) for review. The U.S. EPA has since reviewed the instructions and has indicated that they agree with the revised instructions. A copy of these instructions is attached for your convenience.

We understand that there has been some discussion regarding flow rates and other related sampling issues and we will be evaluating these factors in a scientific manner to determine what, if any, affect these variables have. We believe that an open peer review investigation of these issues with samples analyzed by a lab certified under the auspices of the Safe Drinking Water Act is the best way for everyone to benefit. There are many partners involved in this issue and we want to ensure that the voices of all affected parties are represented.

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2 – When you admitted a mistake in the "proper protocol," in October, were you referencing more than one specific protocol, or just the lack of corrosion control?

DEQ Answer:
The mistakes that were made were primarily with respect to the tone that was used initially in our responses. The U.S. EPA has stated that there are ambiguities in the lead and copper rule and that the rule was open to interpretation. Both the sampling and corrosion control evaluation process were acceptable under the lead and copper rule.

We are currently focused on moving forward. We have developed a plan for moving forward and we are well on our way. We look forward to working with all of our partners so that the faith of the residents of Flint can be restored.

If you have need any further information, please let me know.

Thank you.

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Director
517-284-6700

From: Lori Gliha [mailto:Lori.Gliha@aljazeera.net]
Sent: Friday, December 11, 2015 11:36 AM
To: Wyant, Dan (DEQ)
Cc: Wurfel, Brad (DEQ); Sameen Amin
Subject: FOLLOW UP QUEST

Dear Mr. Wyant,

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I have a couple of quick questions to clarify if you can please help answer these today:

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Thank you!

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Lori Jane Gliha
America Tonight
Al Jazeera America
(202) 997-1382

==========
=====
From: Lori Gliha <Lori.Gliha@aljazeera.net>
Date: December 11, 2015 at 10:52:44 AM CST
To: "WYANTD@MICHIGAN.GOV" <WYANTD@MICHIGAN.GOV>
Cc: "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, Sameen Amin <sameen.amin@aljazeera.net>
Subject: one additional question...

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1. Water must sit idle in the pipes for an extended length of time before sampling. Therefore, do not use any water in the house for at least 6 hours before sampling. The best times to sample are early morning or after returning from work.

2. Select an unfiltered/untreated faucet in the **KITCHEN** or **BATHROOM** that is commonly used for drinking. **DO NOT** sample from a laundry sink or a hose spigot as these samples cannot be used for compliance. **DO NOT** use a faucet that has a filter attached to it unless you bypass the filter. **DO NOT** use a faucet that is connected to a home water treatment device (like a water softener, iron filter, reverse osmosis) unless you bypass the home water treatment device.

3. Place the open sample bottle below the faucet and gently open the **COLD** water tap. If you have a single handle faucet, turn it fully to the **COLD** side. Fill the sample bottle to the neck with the "first draw" of **COLD** water.

4. Tightly cap the sample bottle and place in the sample kit provided. Review the sample kit label to ensure all information contained on the label is complete and correct.

5. Answer the questions on the back of this form and sign the form.

6. Attach this form to the bottle and leave it outside your front door for pick-up.

7. Thank you again for your help. We will send you your individual results within 30 days of receiving them from the laboratory. A summary of information on this year's lead and copper monitoring will be printed in the annual water quality report that will be made available by July 1 of next year. Contact your water supply if you have questions.

If you have questions call:
Water Supply: _____

Manager or
Water Operator: _____

Phone: _____

Or Contact:
Michigan Department of Environmental Quality

DEQ Contact: _____

Phone: _____

(rev. 12/2015)

TO BE COMPLETED BY RESIDENT/CUSTOMER

A. Which faucet did you use to fill the bottle?

☐ Kitchen ☐ Main bathroom ☐ Other

If OTHER, please describe: _____

_____

B. When was the faucet last used before sampling?

Date _____ TIME _____ AM/PM

Note: If the faucet has been idle more than 24 hours, we might not analyze your sample or be able to use your sample for compliance purposes.

C. When did you fill the bottle?

DATE _____ TIME _____ AM/PM

D. Is there a faucet mount filter? ☐ YES ☐ NO

If YES, was it bypassed? ☐ YES ☐ NO

E. Is this faucet connected to a home treatment device such as a water softener, a reverse osmosis unit, an iron removal device OR is any kind of additive used in the home? ☐ YES ☐ NO

If YES, please describe: _____

_____

Note: If you have a home treatment device OR any kind of additive is used, it is possible we might not analyze your sample or be able to use your sample for compliance purposes.

F. If any plumbing repairs or replacement has been done in the home since the previous sampling event, please note this information here:

If YES, please describe: _____

_____

I have read the Drinking Water Lead and Copper Sampling Instructions and have taken a tap sample in accordance with these directions.

_____

Signature

From: Olszewski, Rosemarie (DEQ)
Sent: Tuesday, December 15, 2015 8:19 PM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Shaler, Karen (DEQ);Shaler, Karen (DEQ);Anderson, Madhu (DEQ);Copen, Leigh (DEQ);Pallone, Maggie (DEQ);Howes, Sarah (DEQ);Feuerstein, Heather (DEQ);Krisztian, George (DEQ)
Subject: NBC News Report on Flint

http://www.nbcnews.com/news/us-news/flint-michigan-declares-state-emergency-amid-lead-drinking-water-scare-n480636

Rosemarie

Rosemarie Olszewski

General Office Assistant - Executive Division

Department of Environmental Quality

525 W. Allegan

Constitution Hall, 6th Floor South Tower Pillar P6

Lansing MI 48933

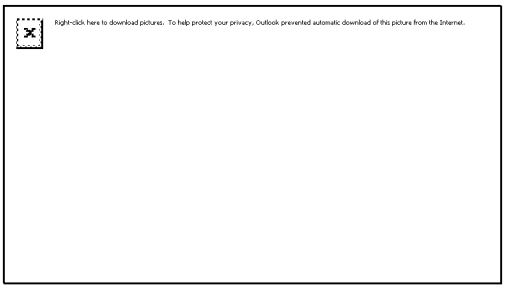
Ph: 517-284-6700

Fax: 517-241-7401

olszewskir@michigan.gov

From: Olszewski, Rosemarie (DEQ)
Sent: Tuesday, December 15, 2015 8:22 PM
To: Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Pallone, Maggie (DEQ);Howes, Sarah (DEQ);Feuerstein, Heather (DEQ);Anderson, Madhu (DEQ);Copen, Leigh (DEQ);Krisztian, George (DEQ)
Subject: ABC News

http://abcnews.go.com/Health/flint-michigan-issues-state-emergency-threat-lead-poisoning/story?id=35774029



Dangerous Lead Levels Prompt State of Emergency

abcnews.go.com

Doctors say they've seen children with elevated levels of lead in their blood.

Rosemarie

Rosemarie Olszewski

General Office Assistant - Executive Division

Department of Environmental Quality

525 W. Allegan

Constitution Hall, 6th Floor South Tower Pillar P6

Lansing MI 48933

Ph: 517-284-6700

Fax: 517-241-7401

olszewskir@michigan.gov

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, December 18, 2015 12:26 PM
To: Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);Leeming, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Seratt, Donna (DEQ);Shaler, Karen (DEQ);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Seymour, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Copen, Leigh (DEQ);Devereaux, Tracy Jo (DEQ);Vanportfleet, Jennifer (DEQ);Schinderle, Jack (DEQ);Goodhall, Mary (DEQ);Shaw, Eric (DEQ);Krisztian, George (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of December 14, 2015
Attachments: Week of 121415 Flint Water E-Clips.pdf

Due to the upcoming Holidays there will be no E-Clips sent out until after the first of the year.

DEQ e-clips

Week of December 14, 2015

Flint and Other Water Stories

ABC News: Flint, Michigan Issues State of Emergency After Threat of Lead Poisoning in Children
http://abcnews.go.com/Health/flint-michigan-issues-state-emergency-threat-lead-poisoning/story?id=35774029

Bedford Now: South County Water System Violates Standard
http://www.bedfordnow.com/news/2015/dec/16/south-county-water-violates-standard/

Detroit Free Press: Flint mayor declares state of emergency over water
http://www.freep.com/story/news/local/michigan/2015/12/15/flint-declares-water-state-emergency/77349944/

When did state know kids in Flint were lead poisoned?
http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/12/17/flint-water-lead/77365380/

Detroit News: Snyder taps two advisers to help on Flint water crisis
http://www.detroitnews.com/story/news/politics/2015/12/17/snyder-taps-two-advisers-help-flint-water-crisis/77479796/

MLive: EPA says it won't take quick action on petition targeting Flint water safety
http://www.mlive.com/news/flint/index.ssf/2015/12/epa_says_it_wont_take_quick_ac.html

Mayor Karen Weaver declares water crisis state of emergency in Flint
http://www.mlive.com/news/flint/index.ssf/2015/12/mayor_karen_weaver_declares_st.html

FEMA sends 28,000 liters of bottled water to Flint amid lead troubles
http://www.mlive.com/news/flint/index.ssf/2015/12/fema_sends_thousands_of_cases.html

Governor's task force on Flint water crisis releases early recommendations
http://www.mlive.com/news/flint/index.ssf/2015/12/state_task_force_on_flint_wate.html

Michigan Radio: How people in Flint were stripped of a basic human need: safe drinking water
http://michiganradio.org/post/how-people-flint-were-stripped-basic-human-need-safe-drinking-water#stream/0

This mom helped uncover what was really going on with Flint's water
http://michiganradio.org/post/mom-helped-uncover-what-was-really-going-flint-s-water

After ignoring and trying to discredit people in Flint, the state was forced to face the problem
http://michiganradio.org/post/after-ignoring-and-trying-discredit-people-flint-state-was-forced-face-problem#stream/0

Listen to "Not Safe to Drink," a special documentary about the Flint water crisis
http://michiganradio.org/post/listen-not-safe-drink-special-documentary-about-flint-water-crisis#stream/0

Reporter's notebook: Some state officials still in denial or misinformed over Flint River decision
http://michiganradio.org/post/reporter-s-notebook-some-state-officials-still-denial-or-misinformed-over-flint-river-decision

Gov. Snyder names state point-man for Flint water crisis
http://michiganradio.org/post/gov-snyder-names-state-point-man-flint-water-crisis#stream/0

NBC News: Flint, Michigan, Declares State of Emergency Amid Lead in Drinking Water Scare
http://www.nbcnews.com/news/us-news/flint-michigan-declares-state-emergency-amid-lead-drinking-water-scare-n480636

The Daily Tribune: Gasoline additive found in Clarkston-area woman's water supply
http://www.dailytribune.com/general-news/20151215/gasoline-additive-found-in-clarkston-area-womans-water-supply&template=printart

The Washington Post: In Flint, Mich., there's so much lead in children's blood that a state of emergency is declared
https://www.washingtonpost.com/news/morning-mix/wp/2015/12/15/toxic-water-soaring-lead-levels-in-childrens-blood-create-state-of-emergency-in-flint-mich/

Have a Safe and Happy Holiday Season.



Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of December 14, 2015

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http://michiganradio.org/post/gov-snyder-names-state-point-man-flint-water-crisis#stream/0

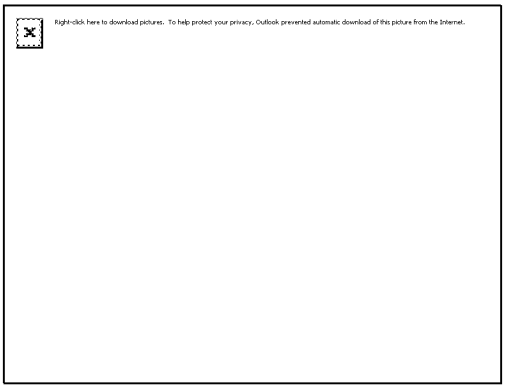
NBC News: Flint, Michigan, Declares State of Emergency Amid Lead in Drinking Water Scare
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The Washington Post: In Flint, Mich., there's so much lead in children's blood that a state of emergency is declared
https://www.washingtonpost.com/news/morning-mix/wp/2015/12/15/toxic-water-soaring-lead-levels-in-childrens-blood-create-state-of-emergency-in-flint-mich/

From: Olszewski, Rosemarie (DEQ)
Sent: Saturday, December 19, 2015 10:07 PM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Howes, Sarah (DEQ);Anderson, Madhu (DEQ);Krisztian, George (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ)
Subject: Rachel Maddow Slams Rick Snyder for Poisoning Flint's Children With Water Crisis

http://detroit.cbslocal.com/2015/12/19/rachel-maddow-slams-rick-snyder-for-poisoning-flints-children-with-water-crisis-video/



Rachel Maddow Slams Rick Snyder For 'Poisoning Flint's Children' With Water Crisis [VIDEO]

detroit.cbslocal.com

"The spigot they turned on poisoned the kids. The kids of Flint, Michigan have been poisoned by a policy decision."

Rosemarie

Rosemarie Olszewski

General Office Assistant - Executive Division

Department of Environmental Quality

525 W. Allegan

Constitution Hall, 6th Floor South Tower Pillar P6

Lansing MI 48933

Ph: 517-284-6700

Fax: 517-241-7401

olszewskir@michigan.gov

From: Krisztian, George (DEQ)
Sent: Monday, December 21, 2015 2:54 PM
To: Shaw, Eric (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ)
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ)
Subject: FW: Genesee County Health Department EOC 12/16/15
Attachments: 2015-12-04 - Bath Time Poster (WEB VERSION).pdf

Eric, Karen and Brad,

Who do we need to get permission from in order to post the attached to the Flintwater page? It appears to be a DHHS publication in conjunction with GCHD

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: McShane, Hilda [mailto:hmcshane@gchd.us]
Sent: Wednesday, December 16, 2015 4:06 PM
To: kboles@valleyaaa.org; Boyer, Jenifier; Jamie Gaskin; Holmes, Virginia (DHHS); showard@co.genesee.mi.us; Sean Kammer; Andy Leavitt; Mose, Sandi Kay (DHHS); neeleyrep34@gmail.com; ioliver@cfgf.org; mpurcell@co.genesee.mi.us; Schoenow, Kris (DHHS); Thelen, Richard (DHHS); Valacak, Mark; Jamie-Lee Venable; Cupal, Suzanne; Henry, James; Hallwood, Dawn; Swartout, April; LaRocco, Toni; Brickey, Tamara; Eisner, Jennifer (DHHS); Wells, Eden (DHHS); Miller, Mark (DHHS); Roach, Billie Jo (MSP); Thompson, Sheryl D. (DHHS); Johnson, M.D., Gary; Sitko, Anthony M; plevine@gcms.org; Kirk Smith; mhanna1@hurleymc.com; Gonzalez, Jonathan (DHHS); Moran, Susan (DHHS); Robinson, Mikelle (DHHS); doerrkay@gmail.com; lrey52@gmail.com; Lcarrav1@yahoo.com; Dayne Walling; Krisztian, George (DEQ); nhenderson@cityofflint.com; edgerton51@michigan.gov; Tommasulo, Karen (DEQ); Stickler, Lisa; BanerjeeA@mottchc.org
Subject: RE: Genesee County Health Department EOC 12/16/15

This is an informational update and the Genesee County Health Department will provide these updates on a daily basis after 4 pm. We are asking all partners included in this email to provide any pertinent updates **DAILY** to Hilda McShane by 2:00pm. If you have nothing new to share, please inform Hilda that you have no updates at this time.

- Today, Michigan Department of Health and Human Services (MDHHS) received approval from Department of Environmental Quality (DEQ) to allow the use and public display of the Bath Time Poster that was developed to address individuals' concerns about using the water to bathe their children (see attached). The Genesee County Health Department encourages all agencies to display the bath time poster.

- Hurley Children's Hospital with MSU extension will offer their first lead focused cooking class at the Farmers' Market this Saturday. Lead focused nutrition recipes and resource book will be distributed at the cooking class . Press release promoting the cooking class will go out tomorrow.

- Mott Children's Health Center continues to work with City of Flint to pick up PUR filters.

Hey Flint! It is safe to wash!

Unfiltered warm tap water is OK for showers & baths.

For you AND your kids!

Just don't let kids drink the bath water when they play in the tub...yuck!

Any lead in the bath water will not soak into your or your kids' skin.*

*At the levels found in Flint water, lead will not absorb into your skin easily. (MDHHS, 2015; CDC, 2007)



If you want to get your water tested, please call the City of Flint Water Plant at 810-787-6537.

If you have questions about Flint water and your health, please call MDHHS at 1-800-648-6942.

Genesee County Health Department

MDHHS Michigan Department of Health & Human Services

v. 12/04/2015

From: Tommasulo, Karen (DEQ)
Sent: Monday, December 21, 2015 3:39 PM
To: Krisztian, George (DEQ);Shaw, Eric (DEQ);Wurfel, Brad (DEQ)
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ)
Subject: RE: Genesee County Health Department EOC 12/16/15

As long as you and DHHS are okay with it, we can post it anytime.

From: Krisztian, George (DEQ)
Sent: Monday, December 21, 2015 2:54 PM
To: Shaw, Eric (DEQ); Tommasulo, Karen (DEQ); Wurfel, Brad (DEQ)
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ)
Subject: FW: Genesee County Health Department EOC 12/16/15

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George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (PPI

From: McShane, Hilda [mailto:hmcshane@gchd.us]
Sent: Wednesday, December 16, 2015 4:06 PM
To: kboles@valleyaaa.org; Boyer, Jenifier; Jamie Gaskin; Holmes, Virginia (DHHS); showard@co.genesee.mi.us; Sean Kammer; Andy Leavitt; Mose, Sandi Kay (DHHS); neeleyrep34@gmail.com; joliver@cfgf.org; mpurcell@co.genesee.mi.us; Schoenow, Kris (DHHS); Thelen, Richard (DHHS); Valacak, Mark; Jamie-Lee Venable; Cupal, Suzanne; Henry, James; Hallwood, Dawn; Swartout, April; LaRocco, Toni; Brickey, Tamara; Eisner, Jennifer (DHHS); Wells, Eden (DHHS); Miller, Mark (DHHS); Roach, Billie Jo (MSP); Thompson, Sheryl D. (DHHS); Johnson, M.D., Gary; Sitko, Anthony M; plevine@gcms.org; Kirk Smith; mhanna1@hurleymc.com; Gonzalez, Jonathan (DHHS); Moran, Susan (DHHS); Robinson, Mikelle (DHHS); doerrkay@gmail.com; lrey52@gmail.com; Lcarrav1@yahoo.com; Dayne Walling; Krisztian, George (DEQ); nhenderson@cityofflint.com; edgerton51@michigan.gov; Tommasulo, Karen (DEQ); Stickler, Lisa; BanerjeeA@mottchc.org
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- Mott Children's Health Center continues to work with City of Flint to pick up PUR filters.

From: Wyant, Dan (DEQ)
Sent: Wednesday, December 23, 2015 2:01 PM
To: Baird, Richard (GOV);Hollins, Harvey (GOV);Murray, David (GOV)
Cc: Anderson, Madhu (DEQ);Sygo, Jim (DEQ);Krisztian, George (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: DRAFT - Auditor General Letter - City of Flint Drinking Water
Attachments: Auditor General Letter - City of Flint Drinking Water.pdf; ATT00001.htm

FYI

Sent from my iPhone

Begin forwarded message:

> **From:** "MI_Office_of_the_Auditor_General" <mi_auditor_general@audgen.michigan.gov>
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
> **Cc:** "Sygo, Jim (DEQ)" <SygoJ@michigan.gov>, "Ringler, Doug (OAG)" <dringler@audgen.michigan.gov>, "Hirst, Laura (OAG)" <LHirst@audgen.michigan.gov>
> **Subject: DRAFT - Auditor General Letter - City of Flint Drinking Water**
>
> Director Wyant,
>
> Attached is a draft of the letter we intend to send to Senator Ananich by close of business today, December 23. You will note that we made some changes based on information we obtained at the December 18 meeting. We keep this document confidential. We will copy you on the version we send to the Senator.
>
> Take care. Doug.

OAG
Office of the Auditor General
Doug A. Ringler, CPA, CIA
Auditor General
201 N. Washington Square, Sixth Floor • Lansing, Michigan 48913 • Phone: (517) 334-8050 • www.audgen.michigan.gov

DRAFT

December 23, 2015

The Honorable Jim Ananich
Senate Minority Leader
State Capitol, Room S-105
Lansing, Michigan

Dear Senator Ananich:

Enclosed are answers to the questions you posed in your October 20, 2015 letter to our office regarding the audit we are conducting of the Office of Drinking Water and Municipal Assistance (ODWMA), Department of Environmental Quality (DEQ), specific to lead contamination in the City of Flint's drinking water. Also enclosed are additional questions we developed that are relevant to these issues, along with five exhibits:

- A map showing Flint water samples by zip code.
- A map showing lead counts of 5 parts per billion or higher.
- Two charts showing the number of samples by time period and zip code.
- A time line of the Flint water review.

We appreciate the opportunity to assist you in answering questions regarding this topic. If you have further questions or a request for other services, please do not hesitate to contact our office.

Sincerely,

Doug Ringler
Auditor General

Enclosures

Q1: How does ODWMA ensure the data it receives is accurate?

A: With regard to the United States Environmental Protection Agency (EPA) Lead and Copper Rule (LCR) monitoring requirements, DEQ relies on the following key controls to ensure the accuracy of test results:

- State-owned laboratories test water samples.
- State-owned laboratories send test results directly to DEQ.
- The City of Flint Water Treatment Plant (Flint WTP) certifies whether sample sites are classified as tier 1*.

The current Flint WTP LCR sampling process includes:

1. DEQ informs the Flint WTP of the required water lead and copper sample size.
2. The Flint WTP determines the pool of tier 1 sites for sampling.
3. The Flint WTP selects the sample.
4. The Flint WTP sends out sample kits and instructions to residents for collecting water samples.
5. Residents leave samples and signed sampling forms outside their front doors.
6. The Flint WTP employee picks up samples and forms from residents.
7. The Flint WTP employee reviews sample forms for completeness.
8. The Flint WTP employee sends samples to the State-owned laboratories.
9. State-owned laboratories test samples and provide results directly to DEQ.
10. DEQ receives water lead and copper sample results, which include the following information: date collected, date received, address where collected, type of residence (e.g., single family or apartment), and sample point (e.g., kitchen sink or bathroom sink).
11. DEQ tracks, and follows up if necessary, the number of samples collected by the Flint WTP to help ensure that the required minimum number of samples are collected by the monitoring period deadline.

DRAFT

* Single-family or multiple-family residence with lead service line, lead solder copper piping constructed after 1982, or lead plumbing.

12. The Flint WTP submits lead and copper report to DEQ that certifies whether sample sites meet tier 1 criteria.

13. DEQ prepares the LCR 90th percentile calculation report.

During our review, we noted two potential improvements for the Flint WTP sampling process (see Question 5 of the additional questions answered by the OAG regarding tier 1 sample validity):

- DEQ could verify that the sampling pool was limited to only tier 1 sample sites to ensure that the Flint WTP is in compliance with the LCR (Title 40, Part 141, section 86(a)(3) of the *Code of Federal Regulations* [*CFR*]).

- DEQ could independently verify the validity of sample site certifications.

Q2: What accountability measures are in place for ODWMA staff who fail to follow data verification protocols?

A: DEQ does not provide any direct oversight over the Flint WTP and, therefore, does not have any accountability measures over the Flint WTP's LCR data verification protocols. DEQ's data verification protocol for lead and copper water sampling is limited to verification that the WTP certifies samples submitted to the State-owned laboratories for analysis (see steps 7 and 12 in the Flint WTP LCR sampling process noted in Question 1 above). We did not identify any instances in which ODWMA staff failed to verify that submitted samples were certified by the Flint WTP.

Q3: What accountability measures are in place for ODWMA staff who lie or misrepresent information to the EPA?

A: As with all classified employees, ODWMA staff must adhere to the rules and regulations established by the Michigan Civil Service Commission. If any ODWMA staff were determined to misrepresent information to the EPA, they would be subject to Civil Service Rule 2-6, Discipline, which allows an appointing authority to discipline an employee for just cause up to and including dismissal. We are not aware of any DEQ-established measures that are in addition to the Civil Service Rules.

We gained access to the e-mail accounts of key DEQ management (DEQ Director, Deputy Director, ODWMA Chief, and other key ODWMA staff) extending back to January 1, 2013. We did so to identify the key decision points and conversations that occurred leading up to and through the situation in Flint. Our review was also intended to determine whether State, Flint, or other officials attempted to conceal key test results or other information.

We noted one e-mail exchange between DEQ and the EPA that appears to be a significant contributor to the concern that DEQ misrepresented information to the EPA. The EPA requested clarification on February 26, 2015 regarding the type of optimized corrosion control **treatment** the Flint WTP was using. DEQ responded on February 27, 2015 that the city had an optimized corrosion control **program** in place, but DEQ did not provide any program details. DEQ informed us that the Flint WTP corrosion control **program** included performing

lead and copper monitoring for two consecutive six-month periods to determine whether corrosion control **treatment** would be necessary in the future. However, it appears the EPA interpreted corrosion control **program** to mean that corrosion control **treatment** was being performed.

On April 23, 2015, the EPA again inquired as to what the Flint WTP was doing for corrosion control **treatment**. DEQ responded on April 24, 2015 that the Flint WTP was not practicing corrosion control **treatment**.

Based on our review of this and other e-mails, we have no specific reason to believe that DEQ willfully misrepresented the information to the EPA.

Q4: What policies do DEQ and ODWMA have in place to escalate major infractions up the chain of command?

A: We did not note any instances of major infractions (i.e., intentional disregard of policies, laws, regulations or specific directions) committed by DEQ staff during the course of our review. DEQ does not have a formal policy or procedure in place to escalate major infractions performed by ODWMA employees; however, our review of DEQ correspondence confirmed the escalation of key issues up the chain of command related to the Flint situation. DEQ stated that its informal policy is for staff to notify the proper level of management of infractions to determine necessary action.

DRAFT

Application of the LCR

Q1: How did the Flint WTP become the primary water supplier for the City of Flint?

A: Upon notification of the City of Flint's plans to switch to the Karegnondi Water Authority (KWA) in April 2013, the Detroit Water and Sewerage Department (DWSD) submitted a letter to the City of Flint stating that it would terminate its agreement to provide water services on April 17, 2014.

According to DEQ management, the Flint WTP attempted to negotiate with the DWSD to maintain it as the City of Flint water supplier; however, after negotiations were unsuccessful, the City of Flint notified DEQ through a permit request of its intent to operate the Flint WTP full time using the Flint River. Although the Flint City Council voted in March 2013 in support of moving to the KWA pipeline, the vote was silent on the use of the Flint River as a temporary drinking water source.

The Flint River was approved by DEQ in 2006 as a backup source of water for emergency purposes prior to the switch from the DWSD WTP to the Flint WTP. On a quarterly basis, the Flint WTP tested the treated Flint River water at the Flint WTP, which met water quality standards; however, the Flint WTP did not test the water's effect on the distribution system at consumer tap locations.

Q2. Did DEQ consult with the EPA prior to determining how to apply the LCR?

A: DEQ did not consult with the EPA on how to apply the LCR prior to implementing two consecutive six-month monitoring periods of the Flint WTP beginning July 1, 2014. Based on past experiences applying the LCR monitoring requirements, DEQ believed that it had appropriately applied the LCR requirements of a large water system.

Q3: When Flint switched to the Flint River water source, should corrosion control treatment have been maintained?

A: We believe that corrosion control treatment should have been maintained.

According to the LCR, a water system can achieve optimized corrosion control if it submits results of tap water monitoring for two consecutive six-month monitoring periods with acceptable lead levels. However, a water system that has optimized corrosion control, and which has treatment in place, should continue to operate and maintain optimal corrosion control treatment.

DEQ staff explained that they did not treat the switch to Flint River water as a new system, but as a new source. DEQ further stated that because the Flint River was a new water source and there was a change in chemicals needed to treat the new source, a corrosion control study was needed to determine the impact on the water distribution system. Therefore, it was DEQ's interpretation that two rounds of six-month monitoring were still needed to evaluate the water quality and determine optimal corrosion control treatment.

DRAFT

The Flint water system had optimal corrosion control treatment when the DWSD WTP was the water supplier. Based on our review of notes from a July 21, 2015 EPA and DEQ conference call on DEQ's implementation of the LCR regarding whether the Flint WTP should have continued to maintain corrosion control treatment, it appeared that the EPA did not agree with DEQ's interpretation of the LCR. Region 5 EPA staff explained that they would talk to the EPA headquarters about the interpretation of regulations and believes that systems that have been deemed optimized need to "maintain" corrosion control. The Region agreed to provide supporting regulatory citations for the language about maintaining corrosion control.

On November 3, 2015, the EPA issued a memorandum stating that the LCR had differing possible interpretations; however, the EPA concluded that it is important for large water systems to take the steps necessary to ensure that appropriate corrosion control treatment is maintained at all times, thus ensuring that public health is protected. Based on this clarification, it appears that corrosion control treatment should have been maintained.

Q4: Should DEQ have required the Flint WTP to start pursuing optimized corrosion control treatment after the first round of six-month sampling results were above the lead action level of 5 parts per billion (ppb)?

A: Yes. According to DEQ's application of the LCR, within six months after the end of the monitoring period in which the water sample results exceeded the acceptable lead level, DEQ should have required the Flint WTP to start pursuing optimized corrosion control treatment.

The LCR states that the lead action level is exceeded if the lead level, as determined by the 90th percentile calculation, is greater than 15 ppb. If the lead action level is exceeded, water systems are required to take additional actions including educating the public about lead in drinking water as well as commencing lead service line replacement if the water system has already installed corrosion control and/or source water treatment. However, for water systems that have not yet implemented corrosion control treatment, they can be deemed to have optimized corrosion control without installing treatment if they can demonstrate lead levels below 5 ppb for two consecutive six-month periods.

The first round of six-month sampling results was received in late March 2015. Because the results were 1 ppb over the lead action level of 5 ppb, DEQ would not be able to achieve two consecutive six-month periods below 5 ppb. Therefore, DEQ should have notified the Flint WTP to start pursuing optimized corrosion control treatment. However, DEQ waited until the second round of sampling was completed (June 30, 2015) to assess whether water sample results improved.

Water Samples

Q5: Did DEQ verify that only tier 1 sample sites were selected by the Flint WTP in the two rounds of six-month samples?

A: DEQ did not verify that only tier 1 sample sites were selected. DEQ relies on the Flint WTP's certification of sample sites and does not perform any independent verification of those certifications.

In a November 19, 2015 *Flint Journal* article, the Flint WTP indicated that it did not have the ability to ensure that all sites were tier 1. In fact, water samples came from the random distribution of 175 testing bottles without regard for whether the homes were at risk for high lead levels. DEQ issued a formal memorandum on November 9, 2015 requesting that the Flint WTP verify the classification of all prior sample items. The results are due back from the Flint WTP on December 30, 2015.

Q6: DEQ dropped two water sampling sites from its second six-month sample (January 1, 2015 through June 30, 2015). Was this appropriate?

A: Yes, it was appropriate for DEQ to drop these two water sampling sites. Federal regulation 40 *CFR* 141.86(a) states:

> ". . . each water system shall complete a materials evaluation of its distribution system in order to identify a pool of targeted sampling sites that meets the requirements of this section . . . All sites from which first draw samples are collected shall be selected from this pool . . . Sampling sites may not include faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants."

This regulation also requires that a water system's targeted sampling pool consist of only tier 1 sampling sites if an adequate number is available to meet monitoring requirements.

According to federal regulation 40 *CFR* 141.86(f), the State may invalidate a water sample if it determines that the sample was taken from a site that did not meet the site selection criteria. A sample invalidated per this regulation does not count toward determining lead or copper 90th percentile levels or toward meeting the minimum monitoring requirements.

DEQ dropped one water sample site from its 90th percentile calculations because the site was from a business that does not meet the tier 1 requirements of being a single-family or multiple-family residence. The second sample site was dropped because the home had a point-of-entry treatment device to filter contaminants. Based on the criteria specified above, it appears that DEQ's rationale for dropping the samples from these two sites appropriately met the requirements for invalidating samples per federal regulation 40 *CFR* 141.86.

Q7: Was flushing of the taps the night before drawing a sample an appropriate sample methodology?

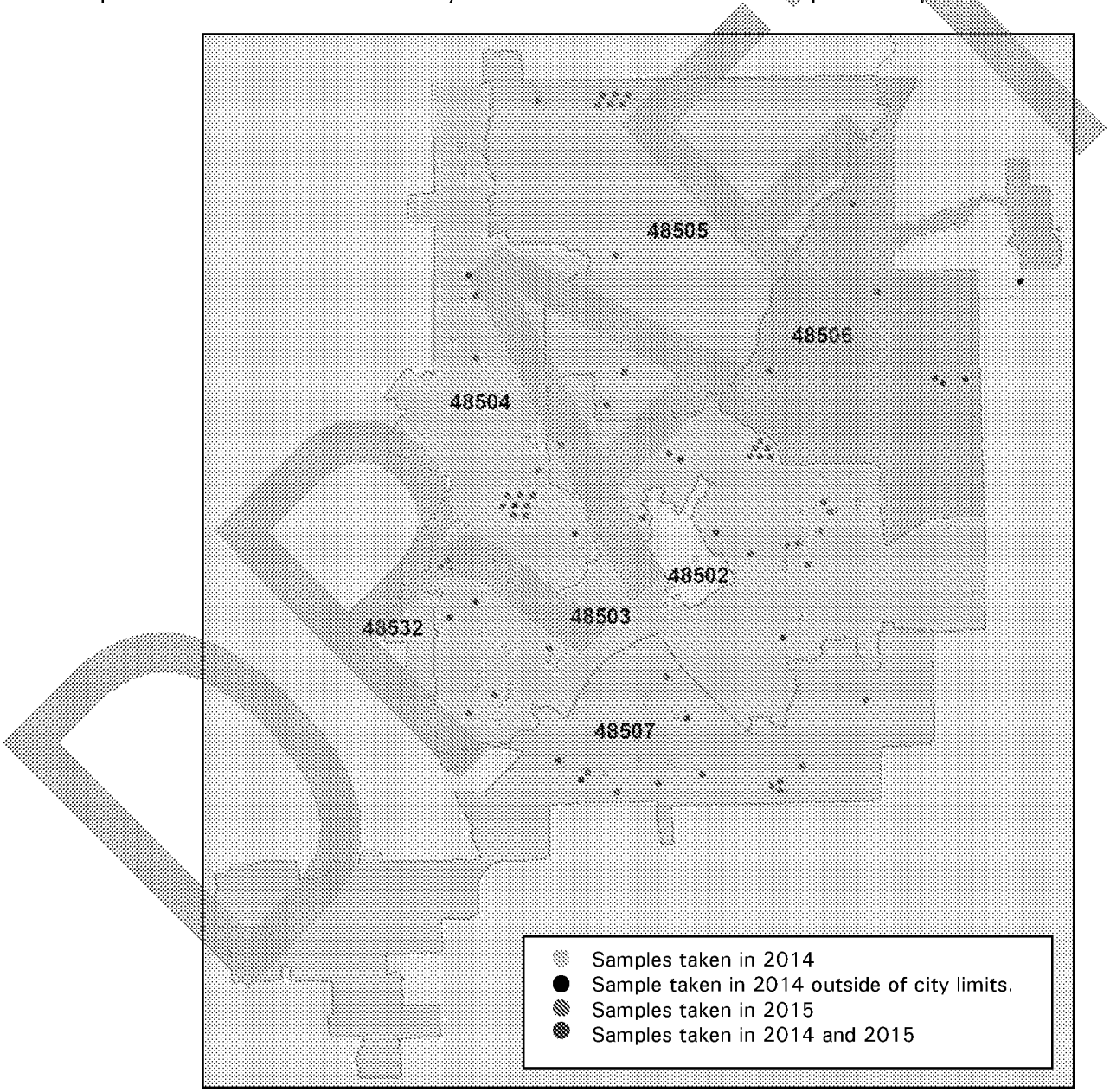
A: Yes. The LCR requires that samples be a first draw of water after six hours of stagnation. The LCR does not indicate whether or not the water line should be flushed prior to collecting the sample. In the sample instructions, DEQ required preflushing to ensure that sampled faucets were not stagnant for an excessive period of time beyond the targeted six hours (e.g., rarely used faucets or when a homeowner has been gone for an extended period of time.)

The LCR requires six hours of stagnation; however, it does not preclude DEQ from instructing residents to flush prior to stagnation.

Flint WTP 2014 and 2015 Sample Locations (Exhibit #1)

In calendar year 1992, the Flint WTP established a tier 1 sample site pool for LCR monitoring. With the change to the Flint River water, the Flint WTP needed to increase the pool of sample locations because of additional sampling requirements. The following exhibit documents the 2014 and 2015 sample locations for LCR monitoring. Based on the data obtained during our review, we could not determine how the locations were selected or whether they were properly classified as tier 1 sample sites.

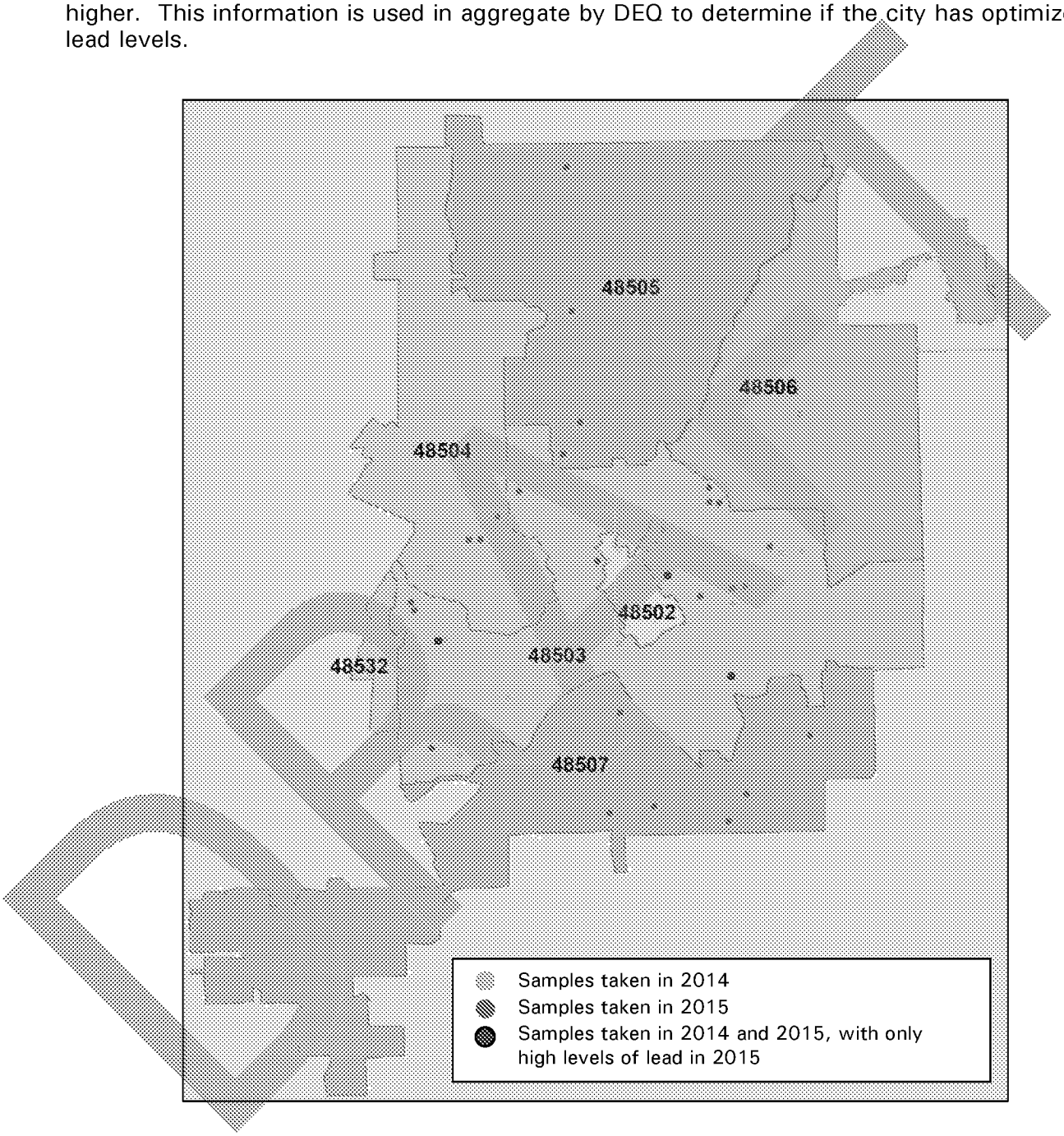
As noted in Question 5 of the additional questions answered by the OAG, DEQ has requested the Flint WTP to verify the tier 1 classification of all prior sample items.



Source: The OAG prepared this map using data obtained from DEQ and ©OpenStreetMap contributors (opendatacommons.org). The sample locations are approximate.

Flint WTP 2014 and 2015 Sample Locations With Lead Counts of 5 Parts Per Billion or Higher (Exhibit #2)

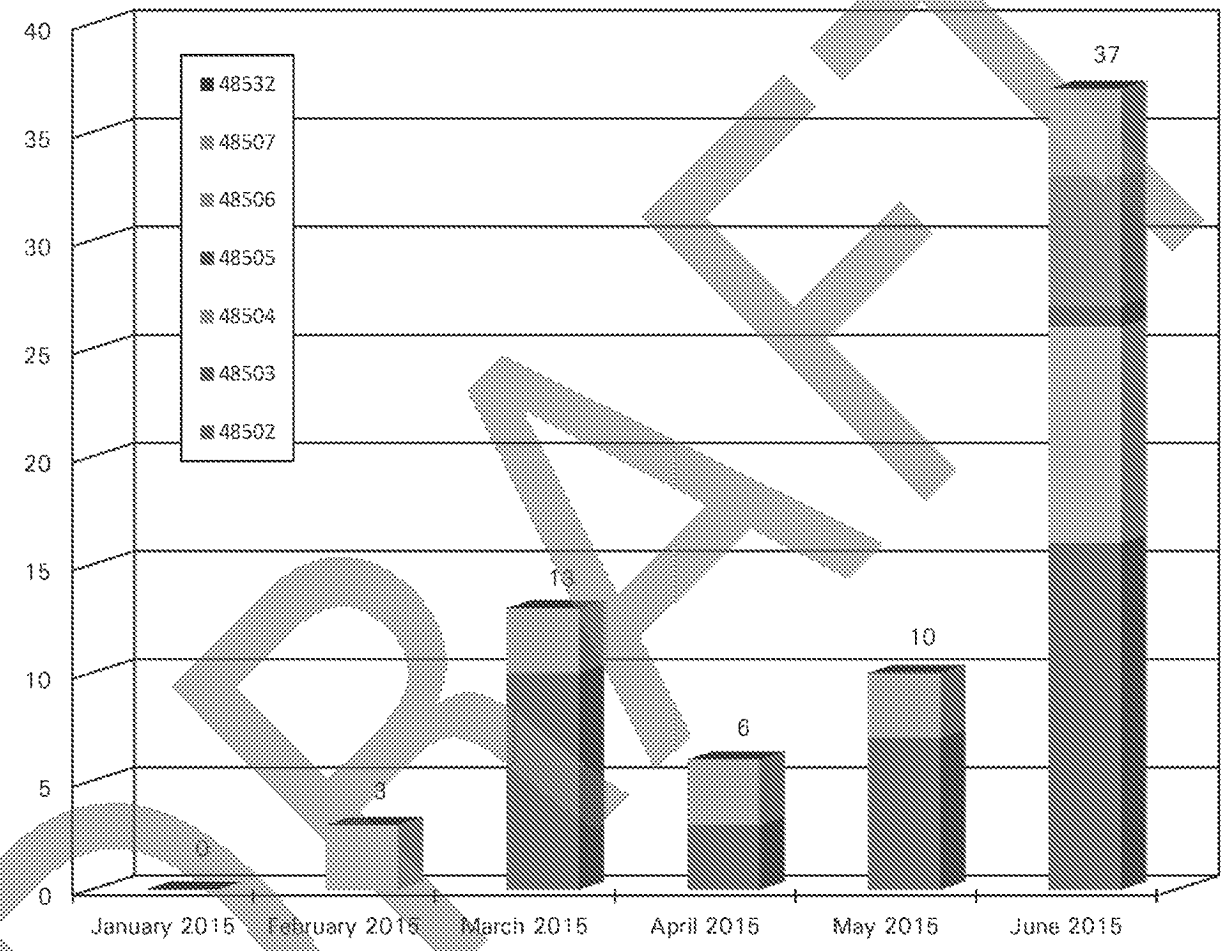
This exhibit documents the 2014 and 2015 sample locations with lead counts of 5 ppb or higher. This information is used in aggregate by DEQ to determine if the city has optimized lead levels.



Source: The OAG prepared this map using data obtained from DEQ and ©OpenStreetMap contributors (opendatacommons.org). The sample locations are approximate.

Flint WTP 2015 Number of Samples by Time Period and Zip Code (Exhibit #3)

This chart expands on Exhibit #1 to show a summary by zip code and time of selection within the sampling period. Based on the data obtained during our review, we could not determine if the lateness of selection within the monitoring period affected the appropriateness of the sample items.

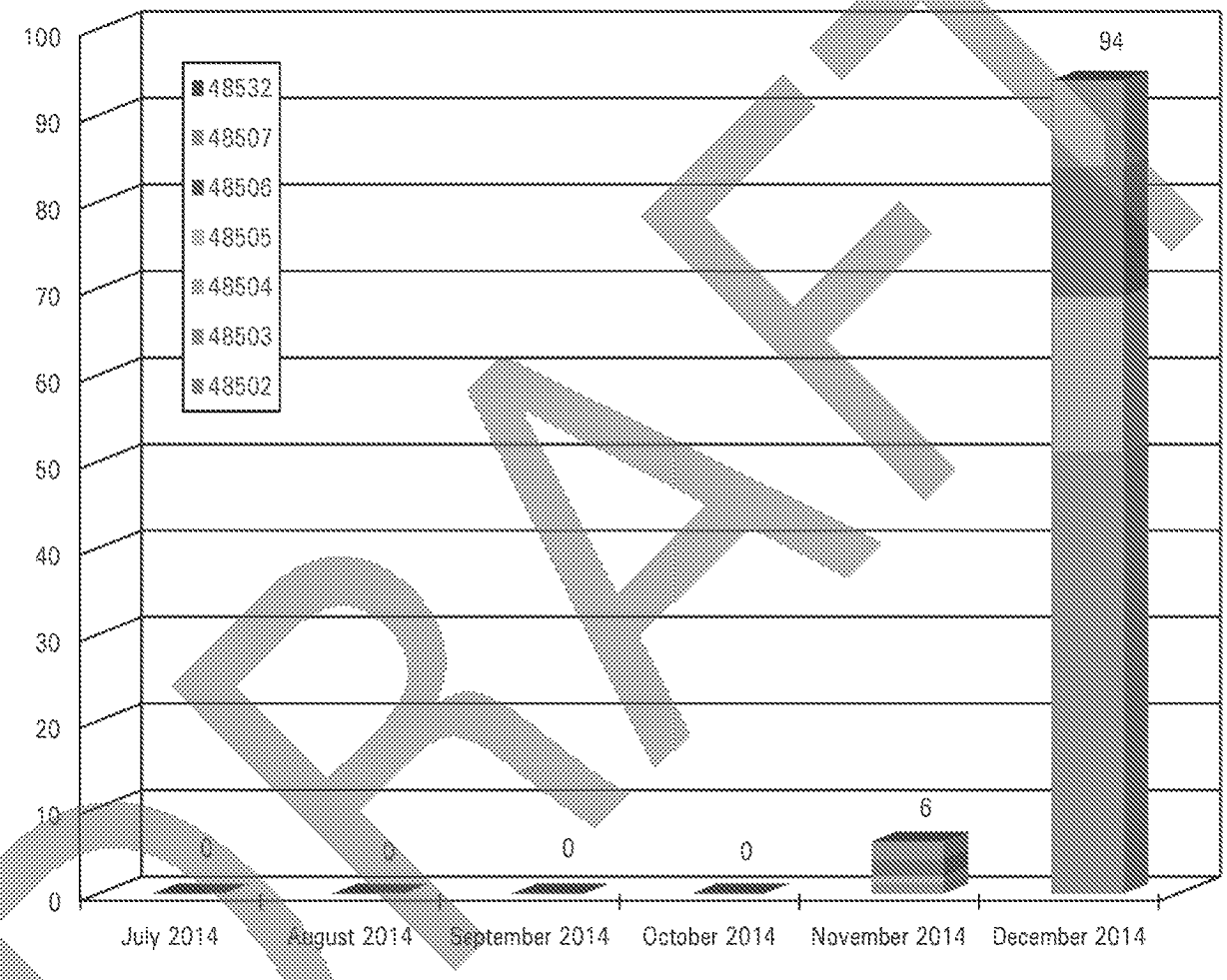


Source: The OAG prepared this chart using data obtained from DEQ.

DRAFT

Flint WTP 2014 Number of Samples by Time Period and Zip Code (Exhibit #4)

This chart expands on Exhibit #1 to show a summary by zip code and time of selection within the sampling period. Based on the data obtained during our review, we could not determine if the lateness of selection within the monitoring period affected the appropriateness of the sample items.



DRAFT

Source: The OAG prepared this chart using data obtained from DEQ.

March 2013
Flint City Council voted 7-1 to join Karegnondi Water Authority (KWA).

April 16, 2013
City of Flint emergency manager Ed Kurtz signs agreement to switch from Detroit Water and Sewerage Department (DWSD) water source to KWA.

April 17, 2013
DWSD said it will stop selling water to the City of Flint in April 2014.

July 2014
DEQ begins the first six-month Flint lead/copper monitoring period.

Mid-March 2014
City of Flint decides to use the Flint River as a water source.

April 25, 2014
City of Flint switches to Flint River water.

January 1, 2015
DEQ begins the second six-month Flint lead/copper monitoring period.

January 12, 2015
DWSD offers the City of Flint a waiver of the $4 million reconnection fee to switch back to Detroit water.

January 29, 2015
City of Flint emergency manager Jerry Ambrose declines DWSD water source reconnection.

February 3, 2015
Governor Snyder awards the City of Flint $2 million to find leaks and replace wastewater incinerator.

February 26, 2015
The EPA discusses a resident's water sample testing results with DEQ (high levels of lead found in water).

February 27, 2015
DEQ responded to the EPA saying that the Flint WTP has an optimized corrosion control program.

March 30, 2015
DEQ notifies the Flint WTP of the first six-month lead/copper monitoring period.

April 24, 2015
DEQ indicates no corrosion control (orthophosphate) chemical in place (treatment).

May 28, 2015
Sample results from the residence noted with high levels on February 26, 2015 show lead levels look good after a new copper service line installation.

July 21, 2015
The EPA and DEQ hold conference call on DEQ's implementation of the Lead and Copper Rule (LCR) and Flint issues.

August 17, 2015
DEQ notifies the Flint WTP of the second six-month lead/copper monitoring results.

August 23, 2015
Virginia Tech researcher notifies DEQ that he will begin a study of the City of Flint water quality.

September 2, 2015
Virginia Tech researcher claims that the corrosiveness of the Flint water is causing lead to leach into residents' water.

September 24, 2015
Hurley Medical Center study issued showing high blood lead levels in City of Flint children.

October 1, 2015
- Michigan Department of Health and Human Services confirms results of Hurley Medical Center study.
- City of Flint urges residents to not drink water.

October 8, 2015
City of Flint develops plan to reconnect to DWSD.

October 16, 2015
City of Flint reconnects to DWSD.

October 19, 2015
DEQ Director Dan Wyant states: ". . . staff made a mistake while working with the city of Flint. Simply stated, staff employed a federal [corrosion control] protocol they believed was appropriate, and it was not."

November 3, 2015
The EPA indicates differing possible interpretations of the LCR with respect to how the LCR's optimal corrosion control treatment procedures apply to this situation (new water source/new water treatment).

2013 | 2014 | 2015

Source: The OAG prepared this time line using data (e-mails, meeting notes, and letters) obtained from DEQ, newspaper and press release articles, the Flintwaterstudy.org, and the Hurley Medical Center survey results.

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, December 23, 2015 3:07 PM
To: Wyant, Dan (DEQ);Sygo, Jim (DEQ);Anderson, Madhu (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Krisztian, George (DEQ);Shekter Smith, Liane (DEQ)
Cc: Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Copen, Leigh (DEQ);Feuerstein, Heather (DEQ);Devereaux, Tracy Jo (DEQ)
Subject: FW: Document for Review - Request for Damage Assessment
Attachments: 12.23.15 - Request for Damage Assessment of Flint.pdf

FYI

Karen for Mary Beth

From: Adamczyk, Lynne (GOV)
Sent: Wednesday, December 23, 2015 11:34 AM
To: Clayton, Stacie (GOV); Manolakoudis, Virginia (GOV); Grijalva, Nancy (DHHS); Thelen, Mary Beth (DEQ); Klotz, Josephine (MSP)
Subject: Document for Review - Request for Damage Assessment

FYI

Lynne Adamczyk
Executive Assistant
Office of Governor Rick Snyder
517-373-3400 (o)
517-241-9412 (d)
adamczykl@michigan.gov

GENESEE COUNTY MEDICAL SOCIETY

4438 Oak Bridge Dr., Suite B - Flint, MI 48532-5467
(810) 733-9925 - Fax: (810) 230-3737 - www.gcms.org

FYI
AH/RB/JA
Lyon/Wyant
Ethe

December 15, 2015

Dr. Karen Weaver, Mayor
City of Flint, City Hall
1101 S. Saginaw St.
Flint, MI 48502

Dear Mayor Weaver,

The Genesee County Medical Society supports your call to Genesee County Board of Commissioners, and the State of Michigan, to perform a damage assessment consistent with that which is needed to declare a state of emergency for the City of Flint Water Crisis.

Sincerely yours,

Pino Colone, MD
President

Cc: *Jamie Curtis, Chair, Genesee County Board of Commissioners*
Kay Doerr, Chair, Genesee County Board of Health
Senator Jim Ananich
Senator Dave Robertson
Governor Rick Snyder
Congressman Dan Kildee

From: Lindsey Smith <lmsmi@umich.edu>
Sent: Monday, December 28, 2015 4:11 PM
To: Wurfel, Brad (DEQ)
Cc: Murray, David (GOV);Wyant, Dan (DEQ)
Subject: Re: FOR IMMEDIATE RELEASE: Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control

10-4. Can't fit into a 40 second headline but will quote in web version. Best~

On Mon, Dec 28, 2015 at 3:30 PM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:

We agreed with the findings in the Auditor General's review. The findings align with our internal department review. We appreciate the Auditor General's work to provide a fair and well considered look at some key issues.

b

Brad Wurfel

Communications Director,

Michigan Department of Environmental Quality

wurfelb@michigan.gov

PPI (cell)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, December 28, 2015 2:17 PM
To: Wurfel, Brad (DEQ)
Subject: Re: FOR IMMEDIATE RELEASE: Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control

I did. Gladly, cause, you know, there's a hell of a lot more in that than how these two would like to paint things. Anyway, let me know if you *do* want to have a say - deadline 330p please and thanks.

On Mon, Dec 28, 2015 at 2:11 PM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:

Did you get a copy of the letter?

Sent from my iPhone

On Dec 28, 2015, at 1:46 PM, Lindsey Smith <lmsmi@umich.edu> wrote:

Hi Brad,

Not sure if they're just late to the party or sitting on this or what (it's dated Dec 23rd) but editors have deemed this worthy of a couple spot news headlines today. Let me know if you'd like to comment.

Best~

---------- Forwarded message ----------
From: **Angela Wittrock** <AWittrock@senate.michigan.gov>
Date: Mon, Dec 28, 2015 at 1:01 PM
Subject: FOR IMMEDIATE RELEASE: Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control
To: Angela Wittrock <AWittrock@senate.michigan.gov>

FOR IMMEDIATE RELEASE — Contact: Angela Wittrock

December 28, 2015 — Phone: (517) 775-1430

Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control

Lawmakers Ananich, Neeley call for more answers, resources

LANSING, Mich. — Senate Democratic Leader Jim Ananich (D–Flint) and State Representative Sheldon Neeley (D–Flint) responded today to an independent review that confirmed that Michigan's Department of Environmental Quality failed to ensure proper corrosion control was used to treat Flint River water and that the State was responsible for the decision to use the river as the City of Flint's primary drinking water source.

The letter from the State Auditor General was the initial response to questions raised by Sen. Ananich in October. The Auditor General is working on a more thorough review and expects to have additional information in the coming months.

"The Auditor General has provided an important piece of this puzzle and I'm sure the extended report they are working on will reveal additional information," Sen. Ananich said. "What's clear is that corrosion control should have been used and there are serious failings in our system that

must be addressed. Between the FOIA emails released recently and these findings, it's obvious that legislative oversight is the best way to see how all of these pieces fit together. I expect holding hearings to be high on the agenda when the Legislature returns."

In response to the question about whether corrosion control treatment should have been maintained when the switch for the water source was made to the Flint River, the Auditor General letter concludes, "We believe that corrosion control treatment should have been maintained."

With regard to how the decision was made about using the Flint River as the primary drinking water source, the letter states, "Although the Flint City Council voted in March 2013 in support of moving to the KWA pipeline, the vote was silent on the use of Flint River water as a temporary drinking water source."

This is contrary to recent claims that somehow this local vote was in favor of using the river.

"This is another example of how the state failed initially, and continues to fail by not treating this situation like the emergency it is," Rep. Neeley said. "We need answers, we need action, and we need them sooner rather than later."

Sen. Ananich and Rep. Neeley have been calling for legislative hearings and a more aggressive response since the Flint water crisis began. They also have been working with local and federal officials on securing additional resources to make safe water available to all residents, and to combat the health impacts of the lead that has been consumed.

[*Editor's note: A copy of the Auditor General letter is available upon request.*]

###

Angela Wittrock

Press Secretary

Senate Minority Leader Jim Ananich

...

Boji Tower, Second Floor | Lansing, MI 48909-7536

P: 517.373.1339

C: PPI

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Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

From: Wurfel, Sara (GOV)
Sent: Tuesday, November 17, 2015 10:07 AM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ)
Subject: FW: request for comment on congressman's letter
Attachments: 111315 Update and Health Fund Request (Snyder).pdf

Calling to touch base on this.

Thanks,
SW

From: Ronald Fonger [mailto:RFONGER1@mlive.com]
Sent: Tuesday, November 17, 2015 9:53 AM
To: Wurfel, Sara (GOV) <Wurfels@michigan.gov>
Subject: request for comment on congressman's letter

Hi Sara:
I've attached a copy of a letter Congressman Kildee sent to Gov. Snyder last week concerning Flint water issues.
I didn't know if there has been a formal reply and/or if you would want to comment on it.
Thanks,

Ron Fonger
MLive Media Group
Reporter

mobile PPI
email rfonger1@mlive.com
address 540 S. Saginaw St. #101, Flint MI 48502

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

COMMITTEE ON
FINANCIAL SERVICES

SUBCOMMITTEE ON
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MONETARY POLICY AND TRADE

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DEMOCRATIC POLICY AND
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Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV
/REPDANKILDEE
@REPDANKILDEE

November 13, 2015

Governor Rick Snyder
Executive Office of the Governor
P.O. Box 30013
Lansing, Michigan 48909

Governor Snyder:

I would like to provide you an update with some of the work we are doing in response to your letter on October 2, 2015 letter. I also have three requests of the state that are necessary to provide relief to the victims of the Flint water crisis.

First, Senator Stabenow, Senator Peters and I wrote a letter to the U.S. Environmental Protection Agency (EPA) asking for clarification on whether federal law permits states to use Safe Drinking Water State Revolving Funds (Revolving Funds) to finance the replacement of privately owned lead water service lines (attached). The EPA responded that the Revolving Funds can in fact be used for this purpose. My office immediately notified both your office and the Michigan Department of Environmental Quality of this fact.

Secondly, the three of us also wrote to Secretary Tom Vilsack requesting that the U.S. Department of Agriculture (USDA) provide greater clarification on the availability of "Ready to Feed" formula for recipients of Special Supplemental Nutrition Program for Women, Infants and Children (WIC) in Flint. Additionally, the letter asks to identify resources to improve the nutrition of Flint residents specifically as it relates to lead, because a certain diet can reduce some of the impact of exposure. The USDA is currently reviewing the letter.

Third, I have been working with the EPA on important revisions to the Lead and Copper Rule that would prevent a public health crisis like the one in Flint from happening again in other communities. I will be providing testimony at a meeting of the National Drinking Water Advisory Council next Wednesday, November 18 on what we have learned firsthand in Flint and the necessary improvements to the Lead and Copper Rule.

I will continue to pursue all of these avenues in order to find assistance for the people of Flint. There are, however, additional steps that need to be taken to remediate the damage done to the people of Flint due to the failures at the state government level, alongside the forgiveness of Flint's Revolving Funds loan debt if that becomes available. I urge state and local partners to work in coordination to fulfill the following requests.

- First, I request that the state of Michigan use its Revolving Funds and other state resources such as the rainy day and general funds to repair the damage done to Flint's water distribution system.

Due to the corrosive nature of the water, conservative estimates show there has been hundreds of millions of dollars of damage done to Flint's water distribution system. The damage to the system will increase maintenance costs resulting in higher rates for Flint water users, who already are burdened by the highest water rates in the state. Furthermore, the presence of over 15,000 lead service lines continues to threaten the quality of the water and creates the potential for future lead exposure through drinking water. As stated previously, the EPA has said that using the Revolving Funds for this purpose is allowed under federal law, and I request the state do so.

- Second, I request the state create a fund for ongoing assistance to the people of Flint to respond to the impacts of lead exposure.

The effects of lead are serious and permanent, with especially harmful impacts on young children and those with weakened immune systems. In discussions with health professionals, they have expressed the need for significant investments in the local health system in order to respond to the widespread exposure of lead to the people of Flint, including monitoring of future lead exposure. This fund should include support for, at a minimum, continuous health monitoring, early education programs, nutrition education, support services for children to succeed in school, and continued exposure prevention efforts. The investments we make now to combat the negative impacts of lead exposure will pay dividends in avoided costs in the future.

- Finally, I again ask that the state immediately reverse course and rescind Flint's obligation to provide $2 million for the cost of connecting to the Detroit water system and refund any money the city of Flint has had to pay.

Requiring a financially distressed city and its people to pay for the state's failures is an abdication of clear responsibility by the state. The state-appointed emergency manager was in charge of the city of Flint during the time that the decision to leave the Detroit system was made. The state – not Flint – created this water crisis, and the state needs to pay to fix it. The $2 million Flint spent to reconnect to the Detroit water system could be used for many other essential services in Flint, such as hiring policemen and firefighters, improving schools and maintaining parks.

In addition to state investments, I encourage the state to request assistance from federal agencies. They have extensive experience working with health, education and nutrition systems nationwide and could provide critical resources to state officials. Specifically, the Centers for Disease Control and Prevention has offered resources if the state requests it. I will work to support any efforts for federal assistance the state makes.

I look forward to working with the state and federal governments to not only provide clean drinking water to the people of Flint immediately, but also repair the damage done to the city's water system and give local health professionals the resources they need to combat the long term impacts of lead exposure.

Sincerely,



Dan Kildee
MEMBER OF CONGRESS

Cc:
Senate Republican Leader Arlen Meekhof
Senate Democratic Leader Jim Ananich
Speaker of the House Kevin Cotter
House Democratic Leader Tim Greimel

From: Wurfel, Brad (DEQ)
Sent: Wednesday, September 09, 2015 9:13 PM
To: Wyant, Dan (DEQ)
Cc: Pallone, Maggie (DEQ);Brown, Eric (GOV);Muchmore, Dennis (GOV);Murray, David (GOV);Wurfel, Sara (GOV)
Subject: Fwd: Congressman Kildee Letter on Lead in Flint Water
Attachments: ATT00001.htm; ATT00002.htm; ATT00003.htm; image004.png; ATT00004.htm; 2015-09-09-Congressman Kildee Letter on Lead in Flint Water.pdf; ATT00005.htm

Heads up. Flint water Comms from cong. Kildee.

Sent from my iPhone

Begin forwarded message:

> **From:** "Dickinson, Jordan" <Jordan.Dickinson@mail.house.gov>
> **Date:** September 9, 2015 at 6:54:47 PM EDT
> **To:** "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>
> **Subject: FW: Congressman Kildee Letter on Lead in Flint Water**
>
> Hi Brad,
>
> Can you please make sure the attached letter is passed along to Director Wyant? I will forward along a physical copy in the mail.
>
> Thank you,
>
> **Jordan Dickinson**
> Legislative Assistant
> Congressman Dan Kildee (MI-05)
> 227 Cannon House Office Building
> Washington, D.C. 20515
> Phone: (202) 225-3611
> www.dankildee.house.gov

This Document is a Non-Responsive Attachment.

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

COMMITTEE ON
FINANCIAL SERVICES

SUBCOMMITTEE ON
HOUSING AND INSURANCE

SUBCOMMITTEE ON
MONETARY POLICY AND TRADE

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Congress of the United States
House of Representatives
Washington, DC 20515

September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV
/REPDANKILDEE
@REPDANKILDEE

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?

- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?

- What, if any, of the recommendations has the EPA followed from the memorandum?

- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,

Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Wurfel, Brad (DEQ)
Sent: Thursday, October 01, 2015 7:46 PM
To: Wurfel, Sara (GOV);Wyant, Dan (DEQ)
Subject: Fwd: Media QA

Sent from my iPhone

Begin forwarded message:

From: "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov>
Date: October 1, 2015 at 7:45:30 PM EDT
To: "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
Subject: Re: Media QA

Would also suggest the following:

Why did the Governor allow the city to switch away from DWSD initially?
(Would use last portion of the response I sent earlier) The then-emergency manager, mayor and city council approved the move to KWA and the state approved the transition. Following the city's decision to move to KWA, DWSD canceled flints contract effective April of 2014. The city faced limited options for its water source following the cancellation of its DWSD contract. he city felt compelled to make the switch. Once the city opted to move to KWA by 2016, Its contract with DWSD was canceled.

On Oct 1, 2015, at 6:55 PM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:

> Got a couple questions in here related to the Governor specifically, so please have a look and help me make sure it's right before we call this final, but here's the media Q&A.
> Also, Terry please have a look at one of the later questions about the historic sequence. I think I captured the decision on leaving DWSD, but if you've got an official recollection, please provide.
> Thanks.
>
> b
>
> <Media QA.docx>

From: Wurfel, Brad (DEQ)
Sent: Friday, October 02, 2015 4:38 PM
To: Wurfel, Sara (GOV);Wyant, Dan (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Murray, David (GOV)
Subject: Fwd: U.S. EPA comment on State of Michigan and City of Flint press conference on Oct. 2, 2015

Sent from my iPhone

Begin forwarded message:

From: "Kelley, Jeff" <kelley.jeff@epa.gov>
Date: October 2, 2015 at 2:23:30 PM EDT
To: "Brad Wurfel (wurfelb@michigan.gov)" <wurfelb@michigan.gov>
Subject: U.S. EPA comment on State of Michigan and City of Flint press conference on Oct. 2, 2015

FYI, this is the statement we released this afternoon …

This statement can be attributed to EPA Region 5 Administrator Susan Hedman:

> "Actions that the State of Michigan and the City of Flint announced today are important steps to protect public health. The immediate steps being taken to implement corrosion control will reduce lead in drinking water, as required by the Safe Drinking Water Act. US EPA will continue to provide technical assistance to the State of Michigan and the City of Flint to support their joint effort. "

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Wurfel, Brad (DEQ)
Sent: Monday, October 05, 2015 10:39 AM
To: Vorce, Susan (DEQ)
Cc: Wyant, Dan (DEQ);Wurfel, Sara (GOV);Tommasulo, Karen (DEQ);Murray, David (GOV)
Subject: Fwd: FOIA request
Attachments: ATT00001.htm; FOIADEQ.doc; ATT00002.htm

Sent from my iPhone

Begin forwarded message:

From: "Erb, Robin" <rerb@freepress.com>
Date: October 5, 2015 at 10:19:05 AM EDT
To: "WurfelB@michigan.gov" <WurfelB@michigan.gov>
Cc: "Wisely, John" <jwisely@freepress.com>
Subject: FOIA request

Good morning, and thanks again for the help Friday.

I'm attaching a FOIA request for several pieces of information. If these aren't to be directed to you as the PIO at DEQ, can you forward them to the correct person and let me know as soon as you do?

Thanks much.

Robin

Robin Erb
Medical Writer
Desk: 313-222-2708
Metro Desk: 313-222-6601
rerb@freepress.com

Follow me on Twitter: @FreepHealth

www.freep.com
Detroit Free Press
160 W. FORT STREET DETROIT, MICHIGAN 48226

Brad Wurfel
Public Information Officer
Michigan Department of Environmental Quality

Oct. 5, 2015

Dear Mr. Wurfel:

This request is pursuant to the Michigan Freedom of Information Act {MCL 15.231 et. seq.}.

Specifically, I request copies of the following public records:

- Records showing the results of the water quality tests conducted by or ordered by the Michigan Department of Environmental Quality or the City of Flint between Jan. 1, 2014 and Oct. 5, 2015,
- Any communications sent or received by DEQ director Dan Wyant related to Flint water quality between Jan. 1, 2014 and Oct. 5, 2015,
- Any communication or documents, electronic or otherwise, related to the U.S. Environmental Protection Agency memo or interim report from Miguel A. Del Toral dated June 24, 2015,
- Any subsequent correspondences regarding lead levels in Flint city water between the city of Flint, the Michigan Department of Environmental Quality and the EPA and
- Any and all correspondences or documents, electronic or otherwise, related to the report "Analysis of the Flint River as a Permanent Water Supply for the City of Flint July 2011."

We intend to use this information for a newspaper story, so we ask that you please expedite this request. If portions of this request are available more quickly than others, we ask you to forward those portions immediately rather than wait until the entire request is completed. If the cost of this request is estimated to exceed $50, I ask that you inform me of the estimated cost before completing this request so that I can decide whether to appeal the fee.

If you have any questions about this request, please contact either John Wisely or me. John can be reached at (313) 222-6825 or jwisely@freepress.com; I can most easily be reached by cell at PPI or by email at rerb@freepress.com.

Thank you for your prompt attention. We look forward to your response.

Robin Erb and John Wisely
Free Press Staff Writers

From: Wurfel, Brad (DEQ)
Sent: Thursday, October 15, 2015 12:30 PM
To: Wyant, Dan (WyantD@michigan.gov);Wurfel, Sara (GOV) (Wurfels@michigan.gov)
Subject: FW: PRESS RELEASE: Mayor Walling Praises State Legislature
Attachments: Mayor Praises Legislature 10.15.15.pdf

From: Jason Lorenz [mailto:jlorenz@cityofflint.com]
Sent: Thursday, October 15, 2015 12:25 PM
Subject: PRESS RELEASE: Mayor Walling Praises State Legislature

For Immediate Release

Mayor Dayne Walling Expresses Gratitude to State Legislature for Approval of Funding to Support Flint Water Needs

Flint, Michigan – October 15, 2015 – Flint Mayor Dayne Walling is expressing his gratitude to the Michigan Legislature for their quick response by approving a bill that provides over $9 million in funding for Flint. Both the State House and the Senate voted unanimously to pass bill HB 4102 to allow for the City of Flint to temporarily reconnect to Detroit water.

"I would like to thank the legislature for taking swift and decisive action to come to the aid of the citizens of Flint in time when they need it most," said Mayor Dayne Walling. "We can now move to secure a reconnection to Detroit and provide Lake Huron water until the KWA pipeline can be completed next year."

In addition to the $6 million asked for by Governor Snyder, the legislature approved an additional $3.5 million for support services related to water, including in-home plumbing testing, health testing and services for those affected by lead and the provision and distribution of water for vulnerable individuals.

–END–

-Jason Lorenz
Public Information Officer

City of Flint
(810) 237-2039 (Office)
PPI (Cell)
jlorenz@cityofflint.com

Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Jason Lorenz
Public Information Officer
Office: (810) 237-2039
Cell: PPI
jlorenz@cityofflint.com

For Immediate Release

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–END–

From: Busch, Stephen (DEQ)
Sent: Thursday, May 28, 2015 12:15 PM
To: Howes, Sarah (DEQ)
Cc: Benzie, Richard (DEQ);Devereaux, Tracy Jo (DEQ);Shaler, Karen (DEQ);Potter, Jodi (DEQ);Shekter Smith, Liane (DEQ);Prysby, Mike (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Potter, Jodi (DEQ);Pallone, Maggie (DEQ)
Subject: RE: Communications between City of Flint and DEQ
Attachments: Flint-2015-02-13-AnnualMonSched.pdf; Flint-2015-03-05-TTHM-VN-15-1.pdf; Flint-2015-03-30-PbCu90.pdf; Flint-2015-04-03-LT2ESWTR.pdf; Flint-2015-04-03-Permit151018.pdf; Flint-2015-05-06-CCR-reminder.pdf; Flint-2015-05-11-CCCP.pdf; S2 Grant Project No 9204.01 City of Flint.pdf; RE: Premise plumning; Water Quality Optimization Strategy; call; Flint MORs; Flint River Source Water Assessment; FW: PEAS call; FW: Schematics for LT2 sampling plans; FW: Water Supply Sources; Premise plumning; RE: City of Flint - March Bromate Results; RE: City of Flint March 2015 MOR; RE: City Water Tech Team; RE: HC Letter & FAQ's; RE: May_Technical Advisory Meeting; RE: PEAS call; RE: RE: Flint Water Age map; RE: TTHM Draft Letter; RE: Water Supply Sources; Residential customers; Watermain breaks; distribution WQPs; January '15 MOR; Lead Copper Cert form; RE: City of Flint Water Plant Monitoring Results; RE: distribution WQPs; RE: distribution WQPs; RE: January '15 MOR

Sarah,

Per the request from Representative Neely, attached are communications from the DEQ Office of Drinking Water and Municipal Assistance (ODWMA) to the City of Flint dating back to February 2015.

This includes:
1 construction permit
7 letters
7 emails from Adam, Rosenthal, Environmental Quality Analyst
18 emails from Mike Prysby, District Engineer
2 emails from Steve Busch, District Supervisor

Please let us know if we can provide any further assistance in addressing Representative Neely's request or if they have any questions or issues we could help answer.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, May 26, 2015 1:59 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Benzie, Richard (DEQ); Devereaux, Tracy Jo (DEQ); Howes, Sarah (DEQ); Shaler, Karen (DEQ); Potter, Jodi (DEQ)
Subject: FW: Communications between City of Flint and DEQ
Importance: High

Note the deadline of COB Thursday to Sarah.

From: Pallone, Maggie (DEQ)
Sent: Tuesday, May 26, 2015 1:21 PM
To: Shekter Smith, Liane (DEQ)
Cc: Wurfel, Brad (DEQ); Wyant, Dan (DEQ); Howes, Sarah (DEQ); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); DEQ-Legislative-Contact; Potter, Jodi (DEQ)
Subject: Communications between City of Flint and DEQ

Liane,
Rep Neely has requested any communications that DEQ has had with City of Flint between February 2015 and today. Could you please pull that information together and get it to Sarah by COB on Thursday? She will then forward it the Representative's office.

Please let me know if you need any additional details.

Thanks,
Maggie

Maggie Pallone
Director of Legislative Affairs
Department of Environmental Quality
PPI (cell)
PalloneM@michigan.gov

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

February 13, 2015

Mr. Brent Wright
City Of Flint - D P W
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Drinking Water Monitoring Schedule – 2015
Annual Reports

Enclosed is your Drinking Water Monitoring Schedule for calendar year 2015 outlining the minimum requirements for your public water supply. Collect samples early in the monitoring period of the year indicated on the schedule. If you use a private laboratory you are required to report the results to us within the first ten days of the month following the month that you received the results. To receive credit for monitoring, the **"WSSN"** (water supply serial number), the **"Site Code,"** and **"County"** must appear on the sample result. Bottles will NOT be mailed automatically. If you use the DEQ Laboratory, you can order bottles by calling 517-335-8184. Be certain of the EPA sampling and analysis method requirements for hold times.

The Michigan Safe Drinking Water Act requires certain reports to be submitted to this office each year. Please remember that cross connection reports and annual pumpage reports are due by March 31, and the **Consumer Confidence Report** is due by July 1.

Also enclosed is the document "2015 Monitoring and Reporting Requirements." This provides additional details about monitoring and reporting requirements. If you have any questions, please contact us by telephone or email using the information below.

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-290-8817

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

MFP:AR:JR

Enclosure
cc/encl: Mr. Mike Glasgow, City Of Flint

2015 Monitoring Schedule

FLINT, CITY OF

WSSN: 02310

Collect samples early in the monitoring period. This schedule reflects your expected routine monitoring and is subject to change. To receive credit for monitoring, include the **WSSN, Site Code,** and **County** on your request for analysis form. Collect Bacteriological and Automated Partial Chemistry samples close to the shipping time and send overnight delivery. Send all sample results to your Department of Environmental Quality (DEQ) district office unless you use the DEQ laboratory. Test codes, sample units, and costs are listed to help you complete the DEQ laboratory form. Prices are subject to change without notice. The DEQ laboratory is closed on state holidays.

Location: Plant Tap

Collect these samples at the entry point to the distribution system (after treatment, if applicable.)

Sample Type	# Samples/ Frequency	Collect Before	Site Code	Fee	Unit Number	Test Code
Automated Partial Chemistry	This DEQ lab scan includes nitrate, nitrite, fluoride, and sodium whose monitoring frequency requirements differ from one another. Before requesting analyses from a laboratory other than the DEQ laboratory, check with your DEQ district staff for the specific monitoring requirements.					
	1/3 months	**Quarterly**	TP001	$18.00	32	R
Volatile Organic Compounds	1/3 months	**Quarterly**	TP001	$100.00	36VO	CXVO
Complete Metals	1/36 months	09/30/2017	TP001	$102.00	36ME	CMET2
Arsenic	1/3 months	**Quarterly**	TP001	$18.00	36ME	CAS
Cyanide	1/3 months	**Quarterly**	TP001	$25.00	36CNa	CCN
SOC – Pesticides	1/3 months	**Quarterly**	TP001	$125.00	36PT	CXPT
SOC – Herbicides	1/3 months	**Quarterly**	TP001	$120.00	36HB	CXHB
SOC – Carbamates	1/3 months	**Quarterly**	TP001	$120.00	36LP	CXLP
Bromate	1/1 months	**Monthly**	TP001	Not performed at the DEQ Laboratory. A list of certified labs is at www.michigan.gov/DEQ. Select Water, Drinking Water, Community Water Supply, then Certified Labs under Programs and Activities.		
Gross Alpha (Radiological)	1/3 months	**Quarterly**	TP001			
Radium 226 & Radium 228	1/3 months	**Quarterly**	TP001			
Water Quality Parameters	25/3 months	**Quarterly**	TP001	Various	Various	Various
Total Organic Carbon (TOC)	Pair/Monthly	**Monthly**	TP001	$35.00	36TO	CTOC
	Monitor for TOC in the source water before any treatment at the same time as monitoring for TOC in the treated water. These samples (source water and treated water) are referred to as "paired samples." Collect the treated water sample not later than the point of combined filter effluent turbidity monitoring and representative of treated water.					
Expanded SOCs						
Dalapon & Haloacetic Acids	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$130.00	36HA	CXHA
Diquate	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$150.00	36DQ	CXDQ
Endothall	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$150.00	36EN	CXEN
EDB & DBCP	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$70.00	36VO	CXEV

2015 Monitoring Schedule

FLINT, CITY OF

WSSN: 02310

Collect samples early in the monitoring period. This schedule reflects your expected routine monitoring and is subject to change. To receive credit for monitoring, include the WSSN, Site Code, and County on your request for analysis form. Collect Bacteriological and Automated Partial Chemistry samples close to the shipping time and send overnight delivery. Send all sample results to your Department of Environmental Quality (DEQ) district office unless you use the DEQ laboratory. Test codes, sample units, and costs are listed to help you complete the DEQ laboratory form. Prices are subject to change without notice. The DEQ laboratory is closed on state holidays.

Location: Distribution System

Sample Type	Collect Samples According to the ...	# Samples/ Frequency	Collect	Site Code	Fee	Unit Number	Test Code
Bacteriological – coliforms	TCR Sampling Site Plan	100/Monthly	**Monthly**	DIST	$16.00	30	BPTC
Chlorine Residual	DBP Monitoring Plan	If serving chlorinated water, measure the residual disinfectant level at the same point and at the same time as the bacteriological sample and report the average to the DEQ.					
Total Trihalomethanes	DBP Monitoring Plan	8/3 months	**During February, May, August and November 2015**	See DBP Monitoring Plan	$65.00	36VO	CXTM
Haloacetic Acids		8/3 months	**During February, May, August and November 2015**	See DBP Monitoring Plan	$130.00	36HA	CXHA
Water Quality Parameters	Representative Sites	25/Quarterly	**Quarterly**	DIST	Various	Various	Various
Lead Copper for Corrosion Control	Lead and Copper Sampling Pool	100/6 months	**Between 1/1 and 6/30/2015**	DIST	$26.00	36CC	CCUB

Community Water Supply
2015 Monitoring and Reporting Requirements

Please Monitor Early: Collect samples early in the monitoring period (month, quarter, year) of the year indicated on the schedule. Bacteriological and partial chemistry samples should be collected close to the shipping time and sent overnight delivery to assure sample holding times are not exceeded (30 and 48 hour hold times respectively). We also recommend avoiding mailing bacteriological samples immediately preceding or following a holiday because samples tend to exceed the 30 hour hold time. When this occurs, a repeat sample must be collected as soon as possible upon notification.

If you use a private laboratory please report the results to us within the first ten days of the month following the month that you received the results. A list of certified laboratories is available on request. If samples are not collected as indicated on your monitoring schedule, you will incur a monitoring violation and possibly a fine. For information on the fines policy, visit http://michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, and Administrative Fines (under Laws and Rules).

To receive credit for monitoring, you must include the **"WSSN"** (water supply serial number), the **"Site Code,"** and the **"County"** when you submit samples for analysis. Site codes are listed on your monitoring schedule.

Special Instructions If You Use The DEQ Laboratory: Bottles will NOT be mailed automatically. To order bottles, call the DEQ Laboratory at 517-335-8184 or download the form EQP 2301 *Requisition for Water Sample Units* from www.michigan.gov/deq. Click on Key Topics, Laboratory Services, Drinking Water, Obtaining The Necessary Sampling Units, and 'test list'. Please note that the DEQ laboratory is closed on most state holidays. The DEQ laboratory prices are subject to change without notice.

Special Instructions For Automated Partial Chemistry, VOC and TTHM Samples: These sample bottles must be cooled and preserved during shipment to the laboratory. If you use the DEQ laboratory, you will receive the ice pack, acid dropper (if necessary) and small cooler when you request the bottles. Samples must be preserved correctly to be used for compliance purposes. To avoid resampling follow instructions contained with the sample bottle. If you would like more information, contact the DEQ lab, at 517-335-8184, or contact this office.

Cyanide: Previously, supplies that chlorinated the water were waived from monitoring for cyanide. The U.S. EPA now requires all supplies to sample the entry point for cyanide.

UCMR3 Monitoring: You may have monitoring requirements in 2015 under the third Unregulated Contaminant Monitoring Rule (UCMR3). The U.S. EPA will contact you directly if your water supply is required to monitor in 2015. A list of laboratories certified to analyze the samples collected for UCMR3 is available at http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/upload/lablist.pdf. Contact the U.S. EPA with questions.

Reminder if Lead and Copper Monitoring Due This Year: Provide individual lead tap results to people who receive water from sites that you sampled, even if lead was not detected, within 30 days of learning the results. Send us a certification that you met all the delivery requirements along with a sample copy of the customer notice within 3 months after the end of the monitoring period. Water supplies that failed to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule." To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit www.michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, and Reporting Forms (under Manuals, Forms & Brochures).

Annual Reports: These reports are due to this office each year.

- The **Cross Connection Report**, due by March 31, describes the status of your local cross connection control program. Manufactured housing communities are exempt from this requirement until 2016.

  Each year, water supplies must submit this report, even if a formal program has not been implemented. If cross connections do not exist in your water system, indicate so on the report. Download the Cross Connection Report form from http://michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, Reporting Forms (under Manuals, Forms & Brochures). Instructions are included with the form.

- The **Annual Pumpage/Usage Report**, due by March 31, is required of water supplies that do not submit monthly operation reports.

  This summary of water pumpage and water use must be submitted by each water supply that does not submit a monthly operation report. To manage our natural resources, pumpage data are compiled to determine water use demands in Michigan. Download the Annual Pumpage/Usage Report form from http://michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, Reporting Forms (under Manuals, Forms & Brochures). Please be sure to indicate the appropriate units on the report (e.g. million gallons or gallons).

- The **Consumer Confidence Report**, due by July 1 to your customers, to your local health department and to this office, describes the quality of the water and characterizes the risks, if any, from exposure to contaminants detected..

  Electronic delivery methods may be used to distribute the CCR to bill-paying customers, provided the method is direct. A paper copy must be delivered to bill-paying customers who request it or known to be unable to receive the CCR electronically. For more information on e-delivery, visit www.michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, Consumer Confidence Report Rule (under Laws and Rules).

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

March 5, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice (VN) – Maximum Contaminant Level for Total Trihalomethanes (TTHM)
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the city of Flint (City) is in violation of the Safe Drinking Water Act,1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with R 325.10610, *MCLs*, of the 1979 Administrative Code, the MCL for disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/L which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R 325.10719l, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the DEQ not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that the TTHM OELs for the City exceed 0.080 mg/L at one of the City's eight sample site locations.

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	**0.162**	**0.145**	0.059	0.0162	**0.096**	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	**0.112**	**0.127**	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	**0.097**	**0.118**	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	**0.106**	**0.196**	**0.094**	0.0245	**0.105**	**0.085**
DBP5 Taco Bell 3606 Corunna Road	0.079	**0.181**	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	**0.088**	**0.144**	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	**0.082**	**0.112**	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	**0.112**	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014, and February 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation Report dated February 27, 2015, and will provide the City and their consultant with comments, as needed, to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719l (R 325.10719l) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday, May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this VN, please provide them in a written response by March 19, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice**. This violation must also be included in your 2015 Consumer Confidence Report, due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least $1,000 per event, with a maximum of $5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov; or at DEQ, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and Municipal Assistance
517-290-8817

Adam Rosenthal, Environmental Quality Analyst
Lansing District Office
Office of Drinking Water and Municipal Assistance
517-284-6644

Enclosure

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Daughtry Johnson, City of Flint
Genesee County Health Department
Ms. Liane Shekter Smith, DEQ
Mr. Richard Benzie, DEQ
Mr. Stephen Busch, DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014, and February 17, 2015). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the MCL. The standard for TTHMs is 80 micro grams per liter (µg/L). The location reporting the highest TTHM level was 105 ug/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.

- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent four quarters, we are still out of compliance with the MCL at two of eight locations.

For more information, please contact Mr. Brent Wright at 517-787-6537, or the Flint Water Plant at 4500 North Dort Highway, Flint, Michigan 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION: WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed

Reminder to water supplier: This notice/certification must be sent to the Department of Environmental Quality.

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

March 30, 2015

Mr. Brent Wright
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear Mr. Wright:

Subject: City Of Flint WSSN: 02310
Lead and Copper Monitoring of Drinking Water Taps

We received your report for the monitoring period July 1, 2014, through December 31, 2014.

Action Levels	Results this monitoring period		Next monitoring period	
	90th Percentile	# of Samples Above Action Level	# of Samples Required	Take Samples Within These Dates
Lead 15 parts per billion (ppb)	6.0 ppb	2	100	1/1 and 6/30/2015 Submit results to this office by July 10, 2015
Copper 1.3 parts per million (ppm)	0.11 ppm	0		

Ninety percent of the sites you tested are within action levels under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended. These results must be reported on your 2014 Consumer Confidence Report (CCR) due to our office, your customers, and the local health department, by July 1, 2015. Also include the following statement in the CCR, regardless of the lead and copper levels:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://water.epa.gov/drink/info/lead.

Recent changes to the Lead and Copper Rule require you to provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of your customer notice by 3 months after the end of the monitoring period. To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms. Water supplies that fail to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule."

Samples due the next monitoring period mark your second six month round of monitoring. Please make every attempt to select the same sites used in the previous monitoring period, giving Tier 1 sites first priority. If original sites are unavailable, select replacement sites based on the Tier 1, 2, and 3 criteria. We strongly encourage you to sample early in the monitoring period.

Bottles will NOT be mailed automatically. To order bottles, call the Department of Environmental Quality laboratory at 517-335-8184, or download the form EQP 2301 *Requisition for Water Sample Units* from www.michigan.gov/deq. Click on Key Topics, Laboratory Services, Drinking Water, Obtaining the Necessary Sampling Units, and test list.

Sincerely,

Adam Rosenthal, EQA
Office of Drinking Water and Municipal Assistance
Lansing District
517-284-6644
rosenthala@michigan.gov

ar/jlr
Enclosures

cc: Mr. Michael Glasgow, City of Flint

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

April 3, 2015

Mr. Brent Wright
City of Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear: Mr. Wright

SUBJECT: Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule)
2nd Round of Source Water Monitoring Requirements

The LT2 Rule was promulgated by the United States Environmental Protection Agency on January 5, 2006. The Department of Environmental Quality (DEQ) adopted this rule into the Administrative Rules in December, 2009. All public water systems that are supplied by a surface water source, and systems supplied by a ground water source under the direct influence of surface water (GWUDI), are subject to this rule.

According to the LT2 Rule, systems are required to conduct an initial and a second round of source water monitoring for each plant that treats a surface water or GWUDI source. Please keep in mind that grandfathering data will not be accepted for the second round of monitoring. This monitoring includes at least one source water *Cryptosporidium*, *E. coli*, and turbidity sample per month for a period of 24 months for systems serving populations greater than 10,000 people. Systems will be assigned to a "treatment bin" based on the results of source water monitoring. The treatment bin specifies the level of *Cryptosporidium* removal and/or inactivation that the system must achieve.

Our records indicate that your system is required to comply with the source water monitoring requirements on Schedule 2 as stated below in Table 1. Therefore, your system is required to submit to the DEQ, a source water monitoring plan for each plant by July 1, 2015, and start the 2nd round of monitoring in October, 2015.

Table 1 – LT2 Milestone Dates for 2nd Round of Source Water Sampling

System Population	Schedule	Must submit Source Water Sampling Plan by...	Must begin second round of source water monitoring...
At least 100,000	1	January 1, 2015	April 1, 2015
50,000 – 99,999	2	July 1, 2015	October 1, 2015
10,000 – 49,999	3	July 1, 2016	October 1, 2016
<10,000	4	July 1, 2017	October 1, 2017

Enclosed with this letter is a Source Water Sampling Plan template that you can complete and submit to this office to comply with the July 1, 2015, deadline. The template includes instructions and a worksheet that will assist the DEQ in determining if your plan meets the requirements of the LT2 Rule.

If you have any questions about this subject, feel free to contact me at 517-290-8817; prysbym@michigan.gov; or Department of Environmental Quality, Office of Drinking Water and Municipal Assistance, Lansing District Office, 525 West Allegan Street, 1st Floor South, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,

Michael F. Prysby, P.E.
District Engineer
Field Operations Section
Office of Drinking Water and
Municipal Assistance

Enclosures

cc: Mr. Howard Kroft, City of Flint

2310

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT APPLICATION FOR WATER SUPPLY SYSTEMS

(CONSTRUCTION - ALTERATION - ADDITION OR IMPROVEMENT) AS DESCRIBED HEREIN

Required under the Authority of 1976 PA 399, as amended

This application becomes an Act 399 Permit only when signed and issued by authorized Michigan Department of Environmental Quality (DEQ) Staff. See instructions below for completion of this application.

1. Municipality or Organization, Address and WSSN that will own or control the water facilities to be constructed. This permit is to be issued to:

City of Flint
Water Service Center
3310 E. Court Street
Flint, MI 48506
WSSN: 2310

2. Owner's Contact Person (provide name for questions):

Contact: Rob Bincsik
Title: Supervisor of Water Distribution & Sewer
Phone: (810)766-7202

Permit Stamp Area (DEQ use only)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT NO. W 151018 APR 3 2015

EXAMINED AND APPROVED FOR COMPLIANCE WITH ACT 399, P.A. 1976

MFP

3. Project Name (Provide phase number if project is segmented):

4-inch Water Main Replacement (contract/phase 1)

4. Project Location (City, Village, Township):
City of Flint

5. County (location of project):
Genesee

ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF THE DEPARTMENT OF ENVIRONMENT QUALITY

cc:

Issued by: Michael Prysby

Reviewed by: Michael Prysby

☐ **If this box is marked see attached special conditions.**

Instructions: Complete items 1 through 5 above and 6 through 21 on the following pages of this application. Print or type all information except for signatures. Mail completed application, plans and specifications, and any attachments to the DEQ District Office having jurisdiction in the area of the proposed construction.

Please Note:

a. This **PERMIT** only authorizes the construction, alteration, addition or improvement of the water system described herein and is issued solely under the authority of 1976 PA 399, as amended.
b. The issuance of this **PERMIT** does not authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other DEQ permits, or approvals from other units of government as may be required by law.
c. This **PERMIT** expires two (2) years after the date of issuance in accordance with R 325.11306, 1976 PA 399, administrative rules, unless construction has been initiated prior to expiration.
d. Noncompliance with the conditions of this permit and the requirements of the Act constitutes a violation of the Act.
e. Applicant must give notice to public utilities in accordance with 1974 PA 53, (MISS DIG), being Section 460.701 to 460.718 of the Michigan Compiled Laws, and comply with each of the requirements of that Act.
f. All earth changing activities must be conducted in accordance with the requirements of the Soil Erosion and Sedimentation Control Act, Part 91, 1994 PA 451, as amended.
g. All construction activity impacting wetlands must be conducted in accordance with the Wetland Protection Act, Part 303, 1994 PA 451, as amended.
h. Intentionally providing false information in this application constitutes fraud which is punishable by fine and/or imprisonment.
i. Where applicable for water withdrawals, the issuance of this permit indicates compliance with the requirements of Part 327 of Act 451, Great Lakes Preservation Act.

6. **Facilities Description** – In the space below provide a detailed description of the proposed project. Applications without adequate facilities descriptions **will be returned**. SEE EXAMPLES BELOW. Use additional sheets if needed.

8400 Feet of 24-inch water main from Pasadena Avenue and Iroquois Avenue, South, 20 blocks, along Iroquois Avenue from Pasadena Ave. to Stockdale St.
East, Jog of Approx. 100 feet, along Stockdale Street from Iroquois Ave. to Euclid Ave.
South, 1 block, along Euclid Avenue from Stockdale St. to Welch Blvd.
West, 1 block, along Welch Boulevard from Euclid Ave. to Seminole St.
South Southwest, 3 blocks, along Seminole Street from Welch Blvd. to DuPont St.
South, 10 blocks, along Dupont Street from Seminole St. to Mackin Road.
Water main is stubbed south of Mackin Road for future additions.

EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES	
Water Mains	500 feet of 8-inch water main in First Street from Main Street north to State Street. OR 250 feet of 12-inch water main in Clark Road from an existing 8-inch main in Third Avenue north to a hydrant.
Booster Stations	A booster station located at the southwest corner of Third Avenue and Main Street, and equipped with two, 15 Hp pumps each rated 150 gpm @ 200 feet TDH. Station includes backup power and all other equipment as required for proper operation.
Elevated Storage Tank	A 300,000 gallon elevated storage tank located in City Park. The proposed tank shall be spherical, all welded construction and supported on a single pedestal. The tank shall be 150 feet in height, 40 feet in diameter with a normal operating range of 130 – 145 feet. The interior coating system shall be ANSI/NSF Standard 61 approved or equivalent. The tank will be equipped with a cathodic protection system, and includes a tank level control system with telemetry.
Chemical Feed	A positive displacement chemical feed pump, rated at 24 gpd @ 110 psi to apply a chlorine solution for Well No. 1. Chlorine is 12.5% NaOCL, ANSI/NSF Standard 60 approved and will be applied at a rate of 1.0 mg/l of actual chlorine.
Water Supply Well	Well No. 3, a 200 foot deep well with 170 feet of 8-inch casing and 30 feet of 8-inch, 10 slot screen. The well will be equipped with a 20 Hp submersible pump and motor rated 200 gpm @ 225 feet TDH, set at 160 feet below land surface.
Treatment Facilities	A 5 million gpd water treatment plant located at the north end of Second Avenue. The facility will include 6 low service pumps, 2 rapid mix basins, 4 flocculation/sedimentation basins, 8 dual media filters, 3 million gallon water storage reservoir and 6 high service pumps. Also included are chemical feed pumps and related appurtenances for the addition of alum, fluoride, phosphate and chlorine.

General Project Information – Complete all boxes below.

7. Design engineer's name, engineering firm, address, phone number, and email address:

Jeffrey B. Markstrom, P.E.
ROWE Professional Services Company
P.O. Box 3748
Flint, MI 48502
(810)341-7500 jmarkstrom@rowepsc.com

8. Indicate who will provide project construction inspection:
☐Organization listed in Box 1.
☒Engineering firm listed in Box 7.
☐Other - name, address, and phone number listed below.

9. Is a basis of design attached?
☐YES ☒NO

If no, briefly explain why a basis of design is not needed.

10. Are sealed and signed engineering plans attached?
☒YES ☐NO

If no, briefly explain why engineering plans are not needed.

11. Are sealed and signed construction specifications attached?
☒YES ☐NO

If specifications are not attached, they need to be on file at DEQ.

12. Were Recommended Standards for Water Works, Suggested Practice for Water Works, AWWA guidelines, and the requirements of Act 399 and its administrative rules followed?
☒YES ☐NO

If no, explain which deviations were made and why.

13. Are all coatings, chemical additives and construction materials ANSI/NSF or other adequate 3rd party approved?
☒YES ☐NO

If no, describe what coatings, additives or materials did not meet the applicable standard and why.

14. Are all water system facilities being installed in the public right-of-way or a dedicated utility easement? (For projects not located in the public right-of-way, utility easements must be shown on the plans.)
☒YES ☐NO

If no, explain how access will be obtained.

15. Is the project construction activity within a wetland (as defined by Section 324.30301(d)) of Part 303, 1994 PA 451?
☐YES ☒NO

If yes, a wetland permit must be obtained.

16. Is the project construction activity within a 100-year floodplain (as defined by R 323.1311(e)) of Part 31, 1994 PA 451, administrative rules?
☐YES ☒NO

If yes, a flood plain permit must be obtained.

17. Is the project construction activity within 500 feet of a lake, reservoir, or stream?
☒YES ☐NO

If yes, a Soil and Erosion Control Permit must be obtained or indicate if the owner listed in box 2 of this application is an Authorized Public Agency (Section 10 of Part 91, 1994 PA 451) ☐ Owner is APA.

18. Will the proposed construction activity be part of a project involving the disturbance of five (5) or more acres of land?
☐YES ☒NO
If yes, is this activity regulated by the National Pollutant Discharge Elimination System storm water regulations?
☐YES: NPDES Authorization to discharge storm water from construction activities must be obtained.

☐NO: Describe why activity is not regulated:
Please call 517-241-8993 with questions regarding the applicability of the storm water regulations.

19. Is the project in or adjacent to a site of suspected or known soil or groundwater contamination?
☐YES ☒NO

If yes, attach a copy of a plan acceptable to the DEQ for handling contaminated soils and/or groundwater disturbed during construction. Contact the local DEQ district office for listings of Michigan sites of environmental contamination.

20. IF YOU ARE A CUSTOMER/WHOLESALE/BULK PURCHASER, COMPLETE THE FOLLOWING

1) Name and WSSN of source water supply system (seller) City of Flint

2) Does the water service contract require water producer/seller to review and approve customer/wholesale/bulk purchaser water system construction plans?
☐YES ☒NO

If yes to #2, the producer/seller approval letter must be attached when submitted to DEQ.

21. **Owner's Certification** The owner of the proposed facilities or the owner's authorized representative shall complete the owner's certification. It is anticipated that the owner will either be a governmental agency (city, village, township, county, etc.) or a private owner (individual, company, association, etc.) of a Type I public water supply.

OWNER'S CERTIFICATION

I, Daugherty Johnson (print) (name), acting as the Utilities Administrator (print) (title/position) for City of Flint (print) (entity owning proposed facilities) certify that this project has been reviewed and approved as detailed by the Plans and Specifications submitted under this application, and is in compliance with the requirements of 1976 PA 399, as amended, and its administrative rules.

Signature* 3/20/15 Date 810 766-7135 Phone

*Original signature only, no photocopies will be accepted.

PROJECT BASIS OF DESIGN – FOR WATER MAIN PROJECTS

PROJECT NAME: _____

For this PROJECT the following information must be provided per Act 399 unless waived by the Department. For projects other than water main installation, or if additional space is needed, attach separate sheet(s) with detailed Basis of Design calculations.

A. A general map of the initial and ultimate service areas
☐Included on engineering plans ☐Attached separately

B. Number of service connections served by this permit application _____

C. Total number of service connections ultimately served by entire project _____

D. Residential Equivalent Units (REUs) served by this permit application _____

E. Total Residential Equivalent Units (REUs) ultimately served by entire project _____

F. Water flow rates for proposed project based on REUs listed in "D' and "E" above

1. Initial design average day flow (mgd) _____
2. Initial design maximum day flow (mgd) _____
3. Total design average day flow (mgd) _____
4. Total design maximum day flow (mgd) _____
5. Required fire flows: (1) _____ gpm for _____ hours

G. Actual flows and pressures of existing system at the connection point(s) (2)

_____ gpm at _____ psi
_____ gpm at _____ psi
_____ gpm at _____ psi
_____ gpm at _____ psi

H. Estimated minimum flows and pressures within the proposed water main system (3) _____ gpm at _____ psi

(1) Every water system must decide what levels of fire fighting flows they wish to provide. Fire flow should be appropriate for the area (residential, commercial, industrial) being served by the project. Typical fire flow rates can be obtained from the water supply, local fire dept., ISO or AWWA. The water system must then be designed to be able to provide the required fire flows while maintaining at least 20 psi in all portions of the distribution system.

(2) Flows and pressures at the connection points must be given to determine if the existing water main(s) are able to deliver water to the new service area. These numbers can be obtained from a properly modeled and calibrated distribution system hydraulic analysis or hydrant flow tests performed in the field. If more than one connection is proposed, list as needed.

(3) List what the estimated minimum flows can be expected in the proposed water mains based on estimated water demands, head losses, elevation changes and other factors that may affect flows, such as dead end mains.

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

TO: Water Supply Superintendent or Operator-in-Charge

FROM: Adam Rosenthal, Office of Drinking Water and Municipal Assistance, Lansing District Office

DATE: May 6, 2015

SUBJECT: New Lansing District e-mail address for all submittals
2014 Consumer Confidence Report Reminder
Updated Lansing District Responsibilities

New Lansing District e-mail address for all submittals:
The Lansing District Office has created a new e-mail account to be used for all future submittals: **DEQ-DWMA-Lansing@michigan.gov**

Please forward future electronic submittals to the above e-mail address. This includes monthly operating reports, laboratory reports, reporting forms and siting plans. No further submittals will be accepted into an individual's e-mail inbox after May 31, 2015. Please make sure to inform any laboratory or consultant who has agreed to submit documents on your behalf of this change. Mailed hard copies and faxed documents will still be accepted.

2014 Consumer Confidence Report Reminder:
Your annual Consumer Confidence Report (CCR) is due to be delivered by July 1st.

You may use any combination of mail, door-to-door, or electronic methods to deliver to bill paying customers. This means you may mail and/or e-mail a message that the CCR is available on the internet or attached to the e-mail. If using the internet, the CCR must be on the internet when customers receive the message and the internet address displayed in the message must lead directly to the entire CCR. The message should tell customers how to request a paper copy. If you normally publish a non-English language CCR, then the notification of CCR availability should also be in that language.

Refer to last year's report and your most recent sample results when preparing this year's report. For more information on preparing your CCR, visit http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Consumer Confidence Report Rule.

In addition to delivering your CCR to your consumers by July 1st, you are required to send a copy to the Department of Environmental Quality and to your local health department. Also send us documentation certifying how you delivered the CCR. Certification of delivery is due to us by October 1st, but we encourage you to send it to us when you deliver the CCR by July 1st. You can download the *CCR Certificate of Distribution Form* from the web page noted above. **If you e-delivered the CCR, send**

us a sample copy of the notification of CCR availability. For example, you may have put the notification on a water bill.

Did anybody monitor UCMR in 2014? Did the United States Environmental Protection Agency (U.S. EPA) direct you to monitor for unregulated contaminants during 2014? Report the average and range of each contaminant detected. Also, provide an explanation of this required monitoring, such as, "Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. We monitored for these contaminants and results of monitoring are available on request."

Please contact us with your questions. We would like to be available to answer all your questions as you draft your CCR, but we have found that our office is inundated with questions as the deadline nears. You might be best served if you contact us before the end of May.

Failure to deliver the CCR by July 1st is a reporting violation and will result in an administrative fine. Contact our office for more information.

Updated Lansing District Responsibilities:
Please make note of the following updates to the Lansing staff and their responsible areas:

Michael Prysby, P.E., is responsible for District 11, which includes Genesee County. Mike can be reached on his cell phone at PPI.

Bethel Skinker, P.E., is responsible for District 12, which includes the counties of Eaton, Ingham, and Clinton (minus manufactured housing). Bethel can be reached on her cell phone at PPI.

Mark Joseph, P.E., is responsible for District 13, which includes Livingston County and the City of Ann Arbor in Washtenaw County. Mark can be reached on his cell phone at PPI.

Kurt Swendsen, Engineer, is responsible for District 14, which includes the counties of Gratiot, Lapeer, Shiawassee, and all manufactured housing community supplies in Clinton County. Kurt can be reached at 517-525-1487.

All Livingston County water supplies are again regulated through the Lansing District Office.

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

DAN WYANT
DIRECTOR

May 11, 2015

Mr. Howard Kroft, Director of Public Works
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

WSSN: 02310

Dear Mr. Kroft:

SUBJECT: Flint Cross Connection Control Program

This letter confirms my site visit on April 29, 2015, with Mr. Glen Thomas, Utilities/Cross Connection Division Inspector for the city of Flint. Mr. Stephen Busch from our office was also present. The purpose of the visit, in part, was to discuss the city's Cross Connection Control Program (CCCP).

The city of Flint has made significant progress in recent years regarding the implementation of the city's approved CCCP. This effort has included identification of accounts, inspection and re-inspection of accounts at the approved frequencies, and ensuring the testing of backflow prevention assemblies in accordance with approved frequencies. However, the city's most recent report of annual CCCP activities for 2014 indicates a significant decrease in these activities below minimum requirements, and this deficiency must be address.

Our office fully recognizes the recent staffing loss of the city's previous plumbing inspector and the importance of these plumbing inspection services in providing public health protection, but these activities should not be borne at the cost of the city's CCCP and the protections it provides. Given the bacterial detections that occurred in the city's water distribution system in August and September 2014, along with customer complaints regarding aesthetic water quality, the need for protection through cross connection control are very evident.

We also realize that implementing a CCCP of for a community water system of this magnitude requires a significant commitment of time and personnel. We encourage the city to review CCCP staffing needs and authorize the workforce necessary to comply with the city's approved CCCP requirements.

Should you require further information, please contact me at the telephone number below; via e-mail at prysbym@michigan.gov; or Department of Environmental Quality, P.O. Box 30242, Lansing, Michigan 48909.

Sincerely,

Michael F. Prysby, P.E.
District Engineer
Office of Drinking Water and
Municipal Assistance
Lansing District Office
(517) 290-8817

mfp/jlr

cc: Mr. Glen Thomas, City of Flint
Mr. Stephen Busch, P.E.

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

February 27, 2015

Mr. Gerald Ambrose, Emergency Manager
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

Dear Mr. Early:

SUBJECT: S2 Grant Program
City of Flint
S2 Grant Project No. 9204-01

We are pleased to inform you that your final disbursement request (No. 7), in the amount of $66,650.62 was paid on February 13, 2014. The project plan was approved on December 13, 2013. The plans and specifications were approved on November 19, 2014. The State Revolving Fund (SRF) loan for Project No. 5439-01 was verified as self-funded via a construction start date of December 3, 2015. The subject S2 Grant project is now administratively complete.

Based on available grant funds, the final S2 Grant amount and local match are $717,531.49 and $79,725.51, respectively. The total final project cost is $797,257. For your files, I am enclosing the S2 Final Project Cost Summary from our database, which reflects and confirms the amounts on your final disbursement request.

Please note that the Michigan Financial Authority (MFA) or the Michigan Department of Environmental Quality (DEQ) may conduct an audit or other review of your project to determine whether Strategic Water Quality Initiatives Fund program requirements have been met. You will be notified in advance of any on-site review. Please retain all project records, whether in written or computerized form, for three years from the date of this letter. If requested, you must provide such records to the MFA, the DEQ, or their agents for inspection.

We are pleased that we could assist you in your effort to protect and preserve the water quality of our state.

If you have any questions, please call the project manager, Mr. Kurt Swendsen at 517-284-5418, or you may contact us by mail at DEQ, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Sonya T. Butler

Sonya T. Butler, Chief
Revolving Loan Section
Office of Drinking Water and Municipal Assistance
517-284-5433

Attachment

cc: Mr. Daughtery Johnson, City of Flint
Mr. Jeff Markstrom, Rowe, Inc., Flint
Ms. Nichole Dorr, MFA
Mr. Chuck Bennett, DEQ-Water Resources Division, Lansing District Office
Ms. Debbie Martinson, DEQ

S2 Final Project Cost Summary

Project Number 9204-01

Grantee City of Flint **Location** City of Flint

Budget Item	Requested Costs	Approved Costs	Allowable %	Approved Final Costs
1 Planning Costs	$797,257.21	$797,257.21	100.0000%	$797,257.21
		Eligible Cost Subtotal		**$797,257.21**
		Less 10% Local Match		**$79,725.72**
		Total Approved Project Cost		**$717,531.49**

Line Items Final Planning Costs

Project Number 9204-01

Item	Desc. or Invoice Number	Requested	Ineligible	Approved	Reason	Cost Type
1	Rowe invoices 67422 - 69146	$65,568.17	$0.00	$65,568.17	DR1. 5 invoices	Incurred
2	invoice 0069223	$249,360.00	$0.00	$249,360.00	DR2	Incurred
3	invoice 70243	$49,906.40	$0.00	$49,906.40	DR3	Incurred
4	invoices 70514, 70686	$83,150.90	$0.00	$83,150.90	DR4	Incurred
5	invoices 70863, 71040, 71215	$153,141.87	$0.00	$153,141.87	DR5	Incurred
6	invoices 71393, 71545, 71719	$122,073.63	$0.00	$122,073.63	DR6	Incurred
7	invoices 72977, 72570, 72787	$74,056.24	$0.00	$74,056.24	DR7	Incurred
	Total:	$797,257.21	$0.00	$797,257.21		

City of Flint

Utilities Division

Dayne Walling
Mayor

Gerald Ambrose
Emergency Manager

February 9, 2015

Mr. Kurt Swendsen
Michigan Department of Environmental Quality
Constitution Hall
525 W. Allegan
Lansing, MI 48933

Re: City of Flint SRF Project Construction Phase
Project Status Report

Dear Mr. Swendsen:

The City of Flint is writing this letter to inform the MDEQ that the construction phase of the SRF project is underway. As you are aware, the City of Flint will be self-funding the construction project and will be performing most of the construction activities with our own utility crews. The following is a summary of the project as we stand today:

- Construction activities began on December 3, 2014
- To date our crews have been concentrating on rehabilitation of the sanitary manholes along Gilkey Creek, Swartz Creek, Carman Creek and Thread Creek which are tributaries of the Flint River. We have signed a contract with Liquiforce to perform the sewer lining items that the City of Flint staff is not able to self-perform.
- The City of Flint has allocated 2 crews consisting of 8 staff. The project is being managed by Rob Smith, our Sewer Systems Supervisor.
- Based on our understanding of the project, we anticipate construction activities to continue through the 2015 construction season with a completion date of November 2015.
- We have kept our consultant, ROWE Professional Services Company, apprised of our progress.

We trust that this letter addresses the concerns of the MDEQ relating to the progress of the SRF construction phase. If you have any questions or require additional information, please contact Daugherty Johnson, Utilities Administrator at djohnson@cityofflint.com.

Sincerely,

Jerry Ambrose
Emergency Manager

Cc: Daugherty Johnson, City of Flint
Jeff Markstrom, ROWE

Swendsen, Kurt (DEQ)

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Thursday, February 19, 2015 11:21 AM
To: Swendsen, Kurt (DEQ)
Cc: Robert Smith; Jeff Markstrom
Subject: City of Flint SRF project progress
Attachments: SRF progress letter Feb 2015.pdf

Hell Kurt. I have attached a letter detailing our progress on our self funded SRF project. If you have any questions please call me at (810) 577-8906 or email. We will also send a hard copy of the letter.

Thank you
Daugherty Johnson
Utilities Administrator
City of Flint

From: Busch, Stephen (DEQ)
Sent: Friday, May 01, 2015 12:17 PM
To: Prysby, Mike (DEQ);gthomas@cityofflint.com
Subject: RE: Premise plumning
Attachments: Final Genesee supplemental questionnaire 2-23-15.docx

Glen,

The attached questionnaire that would be utilized by the Local Health Department and Department of Health and Human Services provides additional detail of what to be on the lookout for (See Questions 12 and 13). As we indicated almost every service connection could potentially have some element associated with what is listed in this questionnaire, but we are just looking for a rough list of those with more non-typical appurtenances such as spas, grocery stores with spray/mist system, garden/nurseries with mist irrigation, etc., and those that Mike provided. Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Prysby, Mike (DEQ)
Sent: Friday, May 01, 2015 9:56 AM
To: gthomas@cityofflint.com
Cc: Busch, Stephen (DEQ)
Subject: Premise plumning

Glen,

Based upon our discussion during our April 29th, 2015 site visit, approximately 40-45 commercial/industrial customers were identified as a potential candidate for needing a premise plumbing Water Safety Plan (WSP). Attached is a list of mechanical components within building premise plumbing to assist you in confirming this and/or identifying additional customers that could serve as WSP candidates. Please send us your completed list at your earliest convenience. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

MDSS ID _____

Legionellosis Questionnaire
Genesee County, 2014-2015

Interviewer Identification

Date of Interview: _____ Interviewer's Name: _____
Health Dept.: _____ Phone Number: _____ E-mail: _____

What was the patient's outcome? ☐ *RECOVERED* ☐ *STILL ILL* ☐ *DIED* ☐ *UNK*

Patient Contact Information

Name:_____ Age:_____ Sex: ☐M ☐F
Street address: _____ City: _____
State:_____ Zip: _____ County:_____
Daytime Phone: _____ Evening Phone: _____

Surrogate Contact Information <*List surrogate contact information if patient is too unwell or has died*>
Name:_____
Daytime Phone: _____Evening Phone: _____
Relationship to Patient: _____

Hello, my name is _____and I'm calling from _____(health department). We are investigating a cluster of respiratory illnesses in Genesee County. At this point, the source of these illnesses is still under investigation. We are hoping this interview will provide further information and answers about the illnesses. I'd like to ask you a few questions about your home and your exposures during the 2 weeks before you got sick. You do not have to answer any of the questions, but any assistance you can provide is appreciated. Do you have about 30 minutes to talk? If not now, when would be a good time for me to call back? _____

<If the case is from more than 1 month prior, the following text may be used: >
It might be helpful for you to collect documents such as a calendar, receipts, credit card or bank statements to jog your memory about your activities and where you were in the 2 weeks prior to getting sick. The only information we would ask you to share from these are dates and locations. Would you like me to call you back after you have time to collect these materials? When would be a convenient day and time for me to call you back? _____

I have that your first symptom started on *<insert onset date>* _____. Is this correct?
☐Yes ☐No ☐ Not sure

If no, what was the first date you started feeling sick? ____/_____/_____

List dates of exposure period: from ____/____/____ to ____/____/____ <The exposure period includes the 2 weeks before the date of illness onset>

Illness Information

1.) During your illness, did you have any of the following symptoms?

	Check one:		
	YES	NO	UNK
Diagnosis of pneumonia			
Fever If yes, highest temp:_____			
Chills			
Cough			
Nausea			
Vomiting			
Diarrhea			
Aches or muscle pains			
Chest pain			
Shortness of breath			
Sore throat			
Headaches			
Other symptoms (*specify*):			

Exposure Information

2.) How long have you lived at your current residence? _____

<If they have moved since the listed exposure period, indicate that you are asking about the house they lived in prior to becoming sick>

a.) If you moved after the exposure period/illness, what was your previous residence address? _____

3.) Where did you get your tap (drinking and other household use) water from between ___/___/___ and ___/___/___ ? *<Exposure period from above>*

- ☐ 1. City of Flint Water
- ☐ 2. City of Flint Township Water
- ☐ 3. Other municipal water system
- ☐ 4. Private well
- ☐ 5. Unknown
- ☐ 6. Other _____

4.) During the last year, has the water pressure at your residence changed? ☐ Yes ☐ No ☐ Not Sure

a.) If yes, did the water pressure: ☐ Increase ☐ Decrease

b). If yes, when did the water pressure change occur? _____

5.) During the last year, has the water quality (appearance, taste, smell) at your residence changed?

☐Yes ☐No ☐Not Sure

a.) If yes, please describe the change in the water quality:_____

_____

b). If yes, when did the water quality change occur? _____

6.) Prior to your illness, did you make any recent plumbing changes or repairs at your residence?

☐Yes ☐No ☐Not sure

a.) If yes, please describe the changes/repairs and give the dates the work was done.

_____

_____

7.) Prior to your illness, were there any water main breaks or other water line issues that affected the water at your residence, including boil water advisories? ☐Yes ☐No ☐Not sure

a.) If yes, please describe the water main/line issues or boil water advisories and give the dates they occurred.

_____

_____

I'd like to ask you some questions about what you did during the 2 weeks **before** you got sick.

The time period I'm asking about is between ___/___/___ and ___/___/___.<*Exposure period*>

During this 2 week period, did you:

8.) Work or volunteer, either full or part time? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table:

Job description	Company	Location	Any exposure to misty water?

9.) Spend any time in a hospital, doctor's office, clinic, or dentist office as a patient, visitor, employee, or volunteer? ☐Yes ☐No ☐Not sure

a.) If yes, check all that apply:

Exposure	Date(s)	Reason for Visit	Name & City of Hospital/ Office/ Clinic	Name of Doctor
Inpatient ☐	Admission_____ Discharge_____			
Outpatient ☐				
Visitor ☐				
Employee ☐				
Volunteer ☐				

10.) Visit, reside, or work in a long term care facility, nursing home, assisted living facility, or senior living facility? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table:

Exposure	Date(s)	Name & City of Facility
Resident ☐		
Visitor ☐		
Employee ☐		

11.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you spend any nights away from home (excluding healthcare settings)? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table: *<prompts: hotel, campground, cabin, cruise, second home, with family, etc.>*

Accommodation Type/Name	Address Street, City, State	Floor/Room No.	Dates of Stay	
			Arrival	Departure

12.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you visit any of the following community venues?

	Check one:					
Venue	YES	NO	UNK	Date(s)	Name of Venue	Address
Hotel (*without* staying overnight – e.g. dinner, wedding)						
Auditorium						
Barbershop or Hair salon						
Car wash						
Casino						
Church or Place of worship						
Gym or Work out facility						
Grocery store						
Home improvement store						
Spa or Nail salon						
Mall or Department store						
Movie theater						
Other (*specify*)						

13.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you have exposure to any of the following water sources, either ***at home*** or while ***away from home***?

	Check one:				
Exposures ***at home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Steam room or wet sauna					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Respiratory therapy machine (e.g. nebulizer, CPAP, BiPAP, etc.)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Other (*specify*)					

Exposures ***away from home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower at gym, work, other location					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Pool/splash pad/waterpark					
Recreational or cooling misters					
Steam room or wet sauna					
Decorative fountain					
Outdoor watering hose or sprinkler					
Beach, lake, pond, river, creek, etc.					
Other (*specify*)					

Medical History

Now I'm going to ask a few questions about your medical history and health behaviors.

14.) Have you ever been told by a healthcare provider that you had any of the following conditions:

	Check one:			
Condition	YES	NO	UNK	Comments
Chronic kidney disease				
Weakened immune system (due to cancer, chemotherapy , radiation therapy, immunosuppressive meds, HIV, organ transplant, etc.)				
Diabetes				
Chronic lung disease (COPD, emphysema)				
Asthma or chronic bronchitis				
Heart disease or congestive heart failure				
Liver disease				
Other conditions (*specify*)				

15.) Health behaviors:

	Check one:			
	YES	NO	Quantity per day (packs or drinks)	Duration (years)
Are you currently a smoker?				
Are you a former smoker?				
Do you drink alcohol?				

16.) Do you know anyone else with similar symptoms? ☐ Yes ☐ No ☐ Not sure

a.) If yes, complete the following table:

Name	Phone	State of Residence	Details of Shared Exposure

Additional Comments _____

_____

_____

_____

_____

Thank you so much for taking the time to answer these questions. Do you have any questions that I can help answer? If you have any questions or remember any further details later, please contact the _____ (health department) at phone: _____.

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 17, 2015 2:02 PM
To: Howard Croft (hcroft@cityofflint.com);Brent Wright (bwright@cityofflint.com);mglasgow@cityofflint.com;Daugherty Johnson (djohnson@cityofflint.com)
Cc: Gerald Ambrose (gambrose@cityofflint.com);nhenderson@cityofflint.com;Prysby, Mike (DEQ)
Subject: Water Quality Optimization Strategy

Howard,

As Mike Prysby and I mentioned during our phone call earlier today, the City should be taking action to optimize water quality in the City's distribution system which will in turn provide the City's water customers with water quality that helps limit the potential for legionella occurrence in premise plumbing. It is recognized that contraction of Legionnaires' Disease is not from ingestion of potable water and not regulated under Safe Drinking Water Act requirements. Further, there is currently no direct evidence of legionella in the City's public water system. However, actions by the City of Flint water system can help minimize the potential for an outbreak in customer plumbing systems.

These actions include the following:

- Water main pigging and flushing to remove biofilm, tuberculation, and sediment throughout the distribution system. Failure to remove such material will limit the effectiveness of any disinfectant. Pigging is the preferred process and equipment can be obtained at minimal cost. As the growth range for legionella starts at 68 degrees F, conducting this work as soon as possible in the spring and early summer with cooler temperatures would help reduce the potential for formation under warmer water conditions.

- Maintain pH levels of 7.2-7.8 in finished water and distribution system when possible to maximize the disinfection and oxidation potential of the hypochlorous acid residual (versus the less potent hypochlorite ion). Any optimized corrosion control plan practices regarding pH levels must be taken into consideration.

- Maintain a minimum free chlorine residual of 0.5 mg/L throughout the distribution system when possible. Continuous residual at this level has been shown to be effective in control of legionella. (This will need to be balanced with requirements to limit TTHM formation and comply with the TTHM standard.)

- Continuous operation and optimization of the ozone treatment equipment to treat raw source water. Ozone is highly effective in the destruction of legionella bacteria.

- Conduct routine monitoring for legionella bacteria at the water treatment plant tap and at locations in the distribution system. Note: sample locations must take water directly off the main and not be from premise plumbing systems. Distribution locations could include storage tank inlets or pumping stations. Monitoring at the WTP plant tap would demonstrate removal of any legionella present in raw source water. A private laboratory that specializes in water sample analysis for legionella would need to be used.

- Optimize water treatment plant operation for pathogen reduction under surface water treatment rule requirements. Optimizing the removal for similar pathogens can help reduce the potential for legionella.

A conference call with City staff would probably be best to facilitate further discussions of these actions in more detail. Mike and I can make ourselves available this week to discuss and answer any questions.

Stephen Busch, P.E.

Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Prysby, Mike (DEQ)
Sent: Friday, February 20, 2015 8:41 AM
To: 'bwright@cityofflint.com'
Subject: call

Brent,

Are we having a conference call today? I am available, give me a time for the call and I will make my-self available.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, April 03, 2015 11:55 AM
To: Michael Glasgow;'bwright@cityofflint.com'
Subject: Flint MORs

Mike, Brent

I was looking at Flint's MORs and I just noticed that ozone treatment parameters (ozone dosage and residuals) are not included. Ozone treatment parameters need to be included in the MOR. Please include this in future MORs. Also, if you can resurrect the ozone treatment parameters from previous months of operation (since going to the Flint River)……we would like that information to include in the previous MORs. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 1:48 PM
To: emurphy@cityofflint.com
Cc: 'bwright@cityofflint.com'
Subject: Flint River Source Water Assessment
Attachments: Flint River Source Water Assess..doc

Elizabeth,

Attached is a copy of the Flint River Source Water Assessment report for your information. Water treatment plant staff should have a copy of this report, if not, please provide them with a copy.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

This Document is a Non-Responsive Attachment.

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:11 AM
To: 'bwright@cityofflint.com'
Subject: FW: PEAS call
Attachments: 20150318_174119.jpg; 20150318_173619.jpg; 20150318_174108.jpg; RE: WRD - PEAS - Oil Sheen

Brent,

More info.....

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Bennett, Charles (DEQ)
Sent: Thursday, March 19, 2015 10:10 AM
To: Thomas Hutchings (thutchings@cityofflint.com)
Cc: Kammer, Stephanie (DEQ); Prysby, Mike (DEQ); Case, Robert; Busch, Stephen (DEQ)
Subject: PEAS call

Tom, I just spoke with a gentleman that reported a discharge to the Flint River south of Carpenter Rd at Bray. The complainant stated that the material is whitish and may have a sheen also. He said it looks like crews have done some excavating along the bike path near this discharge. Attached are photos that I received a moment ago from the caller.

Also, you may want to contact Brent Wright about this matter as well, since our Drinking Water engineer has contacted him about this also (see attachment). Please let me know what you find.

thanks,
chuck

Charles Bennett, PE
DEQ Water Resources Division
Lansing District Office
BennettC4@michigan.gov
ph 517-284-6659; fax 517-241-3571







From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:03 AM
To: Rennaker, Joanne (DEQ);Blayer, Steve (DEQ);Arduin, Jim (DEQ)
Cc: Busch, Stephen (DEQ);Bennett, Charles (DEQ)
Subject: RE: WRD - PEAS - Oil Sheen

I notified the city – Brent Wright (WTP OIC) of the situation given that this just upstream of their WTP intake. Brent and his staff will go out to investigate. Based on past history, he is speculating that it is a break in their lime sludge line. This line is located close to the Flint River in this area and has experienced breaks in the past. I also provided Brent with the caller's name and suggested to contact him and let him know that the city is following up on this incident.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Rennaker, Joanne (DEQ)
Sent: Thursday, March 19, 2015 9:05 AM
To: Prysby, Mike (DEQ); Blayer, Steve (DEQ); Arduin, Jim (DEQ)
Subject: FW: WRD - PEAS - Oil Sheen

Jo Anne Rennaker
Secretary
Department of Environmental Quality - Lansing District Office
Office of Drinking Water & Municipal Assistance
Office of Waste Management & Radiological Protection
517-284-6643

From: Jesko, Roxanne (DEQ)
Sent: Thursday, March 19, 2015 9:02 AM
To: Gutting, Karen (DEQ); DEQ-PEAS-Lansing
Cc: Bennett, Charles (DEQ)
Subject: RE: WRD - PEAS - Oil Sheen

WRD has it Chuck Bennett will be the lead.

From: Gutting, Karen (DEQ)
Sent: Thursday, March 19, 2015 8:44 AM
To: DEQ-PEAS-Lansing
Subject: WRD - PEAS - Oil Sheen
Importance: High

PEAS Form 2014			**revised July 23,**
First Response please "Reply All" to receipt of this PEAS Notification ASAP. Media: Water County: Genesee Ticket # 1498			
Incident Description: There is a sanitary sewer that runs parallel with the Flint river that has had several line breaks. This is causing a sheen on the water. Some of this has solidified along the river bank and is white in color. This is approximately ¼ mile down the bike trail where Bray Rd. ends S of Carpenter. Whatever is coming out of the line, is coming out steady. Caller has photos if needed.			
Complainant (C)		**Party Involved (PI) – Company**	
Name	James Joseph	Person Name	
Street Address		Company Name	
City or Township		Street Address	
State		City or Township	
Phone	810-820-5526	State	
Alt Phone		Phone	
Type		Alternate Phone	
Incident Street Address	S. of Carpenter and Bray Rd (where Bray Rd. stops and now it's a bike path)		
Cross Streets		**Name of Pollutant**	unsure
City or Township	Flint	Release to **Water** (g)	unknown
County		Release to **Ground** (g)	
Water Body Impacted	Flint River	Release to **Air** (lbs)	
Occurred: Date/Time/Ongoing	unsure	**Cleanup Contractor**	
Release Secured: Y or N		**Cleanup Contractor on site: Y or N**	

Comments:

Karen Gutting
Department of Environmental Quality
Office of Environmental Assistance
Environmental Assistance Center
800-662-9278

From: Prysby, Mike (DEQ)
Sent: Friday, April 03, 2015 2:47 PM
To: 'bwright@cityofflint.com';Michael Glasgow
Subject: FW: Schematics for LT2 sampling plans
Attachments: Schematics_combined.pdf; SCHEMATIC_01.pdf; SCHEMATIC_02.pdf; SCHEMATIC_03.pdf; SCHEMATIC_04.pdf; SCHEMATIC_05.pdf; SCHEMATIC_06.pdf; SCHEMATIC_07.pdf; SCHEMATIC_08.pdf; SCHEMATIC_09.pdf; SCHEMATIC_10.pdf

Brent, Mike

Attached are the example schematics that the plants on Schedule 2 may use to indicate where the source water sampling location is in relation to the intake, chemical feed points, recycle streams (if any) and the plant. You can select the schematic that best fits your situation and mark the sampling location and other pertinent information on it. If you can't find a schematic that doesn't fit Flint's exact setup, you can use the generic/blank one (schematic 10). Your Schedule 2 Crypto. monitoring letter is being mailed to you today.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 11:01 AM
To: emurphy@cityofflint.com
Subject: FW: Water Supply Sources

Elizabeth,

Below is a link to our website that lists all of surface water systems in Michigan. You will need to scroll down to the bottom of the list to see the listing of supplies using a river as their source. Also, I am not aware of any source water assessment conducted for the Flint River watershed; however, I would like to confirm that. I will let you know asap once I obtain the confirmation.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-9775--,00.html

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, May 01, 2015 9:56 AM
To: gthomas@cityofflint.com
Cc: Busch, Stephen (DEQ)
Subject: Premise plumning
Attachments: Premise Plumbing.doc

Glen,

Based upon our discussion during our April 29th, 2015 site visit, approximately 40-45 commercial/industrial customers were identified as a potential candidate for needing a premise plumbing Water Safety Plan (WSP). Attached is a list of mechanical components within building premise plumbing to assist you in confirming this and/or identifying additional customers that could serve as WSP candidates. Please send us your completed list at your earliest convenience. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Building Plumbing & Appurtenances to Consider

1. **Cooling Towers ***
2. **Evaporative Condensers ***

   ***evap fluid coolers/closed circuit cooling towers typically used for cooling industrial processes, refrigeration plants in cold stores, and cooling of make-up water for large building AC units**

3. **Gravity fed storage tanks**
4. **Boiler systems**
5. **Plate heat exchangers**
6. **Circulating/non-circulating hot water systems**
7. **Buildings with extensive plumbing (large runs of hot water piping and/or dead-end piping).**

From: Prysby, Mike (DEQ)
Sent: Monday, April 06, 2015 9:00 AM
To: Michael Glasgow
Cc: Rosenthal, Adam (DEQ)
Subject: RE: City of Flint - March Bromate Results

Michael,

The March result is encouraging….we need a copy of the sample result from the sample collected in October of 2014…

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Monday, April 06, 2015 7:24 AM
To: Rosenthal, Adam (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: City of Flint - March Bromate Results

Adam,

Here are the results of our March bromate sampling.

Mike Glasgow
City of Flint Water Plant

This Document is a Non-Responsive Attachment.

From: Prysby, Mike (DEQ)
Sent: Tuesday, February 17, 2015 4:03 PM
To: Howard Croft
Cc: Busch, Stephen (DEQ);Benzie, Richard (DEQ)
Subject: RE: City Water Tech Team

Howard,

After further discussion with ODWMA staff, I am available to participate in the TAC. My main role will be review water system reports and provide comments and/or guidance primarily from a regulatory standpoint. Please keep me informed as to when the first meeting will be held. Finally, I wish to extend my thanks for the invitation to participate in the TAC.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Saturday, February 14, 2015 8:45 AM
To: Prysby, Mike (DEQ)
Subject: City Water Tech Team

Mike,

The City of Flint has contracted with Veolia North America in order to have an additional review of the water system. As part of this review, we are working to develop a Technical Advisory Committee (TAC) that will that will receive reports and interact with the technical staff from Veolia. The City has identified 8 - 12 entities or individuals that we are extending an invitation to participate on this committee.

I would like to extend this invitation to you or your designee to be a representative on the TAC team which we hope to have established by early next week.

I understand that this is short notice but if you would consider the offer and confirm or deny your participation I would greatly appreciate it. We are hoping to announce the names of this team at a Public Works Committee meeting Wednesday February 18th. The details of the first meeting and the ongoing agenda which is anticipated to extend through the implementation of the Karegnondi Water Authority as a water source will also be unveiled next week..

Thank you,

--
Howard Croft

Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
bcroft@cityofflint.com

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:24 AM
To: Howard Croft
Cc: Busch, Stephen (DEQ);Rosenthal, Adam (DEQ)
Subject: RE: HC Letter & FAQ's

Howard,

It appears that my edits were not included in the final letter. The 6th paragraph down should be revised such that residents understand the difference between the Locational Running Annual Average (LRAA) and the results from the individual quarter (Feb 2015) ...to avoid possible confusion when they read the DEQ PN template which states that two of the eight sites are above the TTHM standard (this being based on the LRAA). Also, the words "annual average" needs to be replaced with Locational Running Annual Average (LRAA).

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Thursday, March 19, 2015 9:09 AM
To: Brent Wright; Daugherty Johnson; Dayne Walling; donna. cole; gdn2@aol.com; Howard Croft; James Henry; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Nicholas; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green; Elizabeth Murphy; Robert Bincsik; Robert Case; Jason Lorenz; Kelly Rossman-McKinney; Sharon Emery; Gerald Ambrose
Subject: HC Letter & FAQ's

Technical Team Members,

Attached please find the final copy of a letter to the health community along with a Frequently Asked Question list.

These documents are ready for distribution among your peers and others. We anticipate mailing out the actual violation notice at the beginning of next week.

I will email everyone on this list when we determine a date for the next Technical Committee Meeting.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Prysby, Mike (DEQ)
Sent: Friday, May 08, 2015 9:47 AM
To: Howard Croft
Subject: RE: May_Technical Advisory Meeting

Howard,

The May 20th Distribution Practices Seminar that I am registered for has been postponed; thus, I will be available to participate in the TAC meeting on Wed. May 20th in Flint. See you on the 20th.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Monday, May 04, 2015 2:06 PM
To: Brent Wright; Daugherty Johnson; donna. cole; Elizabeth Murphy; gdn2@aol.com; Gerald Ambrose; Howard Croft; James Henry; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green; Michael Sargent
Cc: Natasha Henderson
Subject: May_Technical Advisory Meeting

Technical Advisory team,

We are planning to hold our next advisory meeting on Wednesday May 20th 2:00 pm at City Hall. The focus points of the meeting will be to convey the advancements in the current water quality, the summer implementation plans and timelines, and the latest information on test results.

We continue to offer testing and to look for any residential concerns about the water. I encourage all of the hospital and college representatives to bring forward any recent issues that may have arisen and we will look to discuss those as well as any other situations that we are aware of. I will send out an agenda early next week and we will plan on having a conference line available to call in.

Please send any questions or comments to me if there are items that you would like to see addressed.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 11:28 AM
To: Bennett, Charles (DEQ);Thomas Hutchings (thutchings@cityofflint.com)
Cc: Kammer, Stephanie (DEQ);Case, Robert;Busch, Stephen (DEQ);'bwright@cityofflint.com'
Subject: RE: PEAS call

Brent investigated the PEAS call and left me a voicemail with his findings. He confirmed that the residue was a previous lime sludge leak and frozen residue still needs to be cleaned up. The source of the sheen was from a previous storm sewer discharge; however, there was no storm sewer discharge this morning and conditions appeared clear. Brent also followed up with the concerned citizen. Brent will provide further follow-up (via e-mail) concerning this PEAS call.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Bennett, Charles (DEQ)
Sent: Thursday, March 19, 2015 10:10 AM
To: Thomas Hutchings (thutchings@cityofflint.com)
Cc: Kammer, Stephanie (DEQ); Prysby, Mike (DEQ); Case, Robert; Busch, Stephen (DEQ)
Subject: PEAS call

Tom, I just spoke with a gentleman that reported a discharge to the Flint River south of Carpenter Rd at Bray. The complainant stated that the material is whitish and may have a sheen also. He said it looks like crews have done some excavating along the bike path near this discharge. Attached are photos that I received a moment ago from the caller.

Also, you may want to contact Brent Wright about this matter as well, since our Drinking Water engineer has contacted him about this also (see attachment). Please let me know what you find.

thanks,
chuck

Charles Bennett, PE
DEQ Water Resources Division
Lansing District Office
BennettC4@michigan.gov
ph 517-284-6659; fax 517-241-3571

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 11:07 AM
To: Daugherty Johnson
Cc: Busch, Stephen (DEQ)
Subject: RE: RE: Flint Water Age map

Daugherty,

Based upon the most recent information provided to us from the city and your consultant, we are comfortable with either size transmission main (20-inch or 24-inch) for the transmission main project. An Act 399 permit (Permit No. W131020) issued March 18, 2013 (expired yesterday) inlcuded 23,550 LF of 24-inch WM, 1068 LF of 8-inch WM and 6800 LF of 8-inch WM. Given the reduced scope (lineal footage) of the project and expired permit...A new Act 399 permit seems more appropriate. Also, if the remaining work in the future (to complete the rest of the project) is completed under a separate contract, then, a separate Act 399 permits needs to be issued for that contract. A revised Act 399 permit application and set of plans (reduced scope) are needed. Assuming no changes in actual location of the proposed watermain and appurtenances, we should be able to expedite the review and issuance permit in a timely manner.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Thursday, March 19, 2015 9:43 AM
To: Prysby, Mike (DEQ)
Subject: Fwd: RE: Flint Water Age map

Hello Mike. Here are the referenced exhibits in the 24 in. main reduction letter

Daugherty

---------- Forwarded message ----------
From: "Mack, Melissa" <MCMack@lan-inc.com>
Date: Mar 19, 2015 9:34 AM
Subject: RE: Flint Water Age map
To: "Daugherty Johnson" <djohnson@cityofflint.com>
Cc:

Hi Duffy,

Please see attached.

Melissa

Melissa C. (Henderson) Mack, PE

Associate, Project Manager

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Thursday, March 19, 2015 6:57 AM
To: Mack, Melissa
Subject: RE: Flint Water Age map

For clarification, I need the exhibits referenced in the letter you sent me discussing the downsizing of the 24 inch transmission main.

On Mar 19, 2015 7:55 AM, "Daugherty Johnson" <djohnson@cityofflint.com> wrote:

Hello Melissa. Could you send the exhibits referenced in the letter. DEQ wants to see them.

Thanks
Duffy

On Mar 15, 2015 5:26 PM, "Mack, Melissa" <MCMack@lan-inc.com> wrote:

You should be able to print to any size. Try 11x17 portrait. I'm attaching again in case the file got corrupt when it was sent last time.

Melissa C. (Henderson) Mack, PE

Associate, Project Manager



2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Friday, March 13, 2015 1:46 PM
To: Mack, Melissa
Subject: RE: Flint Water Age map

I cannot print the map in its entirety. Do I need to scale a specific way?

On Mar 13, 2015 8:54 AM, "Mack, Melissa" <MCMack@lan-inc.com> wrote:

Duffy,

As discussed here is the water age map from January showing the water sample locations.

Thanks,

Melissa

Melissa C. (Henderson) Mack, PE

Associate, Project Manager

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Mack, Melissa
Sent: Thursday, March 12, 2015 1:12 PM
To: Daugherty Johnson; Green, Warren; Matta, Samir
Subject: Re: Flint Water Age map

Duffy,

We heard back from Innovyze. The model file got corrupted, but they are walking us through a fix. We are documenting the process so we'll know what do do if it happens in the future.

We expect to have fixed this afternoon and have the maps to you thereafter.

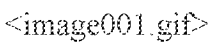
Thank you,

Melissa

Sent from my iPhone

On Mar 11, 2015, at 5:04 PM, Mack, Melissa <MCMack@lan-inc.com> wrote:

> Duffy,
>
> We ran into a technical issue with the model creating the water age maps without the 24-inch highlighted. We have to send the model to Innovyze. They weren't able to help us over the phone. We will get you the maps as soon as possible.
>
> Thanks,
>
> Melissa
>
> **Melissa C. (Henderson) Mack**, PE
>
> Associate, Project Manager



2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Wednesday, March 11, 2015 9:07 AM
To: Mack, Melissa; Green, Warren; Matta, Samir
Subject: Flint Water Age map

Hello Melissa. Would you please send me a copy of the latest Water Age map for Flint.

Thanks

Duffy

From: Prysby, Mike (DEQ)
Sent: Tuesday, March 17, 2015 4:26 PM
To: Howard Croft;Brent Wright;Daugherty Johnson;Dayne Walling;donna. cole;gdn2 @aol.com;James Henry;jmikewright;JoAnne Herman;John O'Brien;Kirk Smith;larry.koehler@mcc.edu;Laura Sullivan;Michael Glasgow;Mike Lane;Natasha Henderson;Norb Birchmeier;Pete Levine;rob.nicholas@veolia.com;Robert Nicholas;rosejo@msu.edu;Russell Hudson;Samir Matta;Warren Green
Cc: Busch, Stephen (DEQ)
Subject: RE: TTHM Draft Letter
Attachments: Draft - Flint Letter to Healthcare Providers.docx

Howard,

I made a few changes to the draft letter...in red (see attached)....mainly to make a more clear distinction between the locational running annual average and the stand-alone quarter (February 2015) results and how it affects the number of sites in compliance. If you have any questions, feel free to call me.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Monday, March 16, 2015 4:28 PM
To: Brent Wright; Daugherty Johnson; Dayne Walling; donna. cole; gdn2@aol.com; Howard Croft; James Henry; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; rob.nicholas@veolia.com; Robert Nicholas; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green
Subject: TTHM Draft Letter

Team,

We have received our notice from the DEQ and our next step is to have this group preview the letter that we intend to send to the public along with it. I have forwarded everyone a draft of the letter for any comments and I am also sending again all of the literature that was forwarded from Mr. Wright of the EPA and DR. Rose of MSU.

We expect to have an additional FAQ ready and out to this group on Tuesday and we anticipate the violation notice going out in the near future.

The **citizens advisory group** will meet again on this Thursday, we are currently looking to have another **Technical Advisory Committee** with this group in early April.

Thank you,
--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

DRAFT Letter to Flint Healthcare Providers

The safety and quality of Flint's water has been in the news for months. We have worked hard to address these issues and have succeeded in bringing Flint's water within the state's safety guidelines on all measures, including TTHM (total trihalomethanes). Excess TTHM triggered the initial letter to our customers earlier this year.

Even though Flint water now meets the standards and is testing significantly below the state's allowable contamination levels, we are required to send out another letter to residents because the *annual* quarterly testing average is not yet below the state's allowable average.

Flint tests for TTHM – a byproduct of the water chlorination process – at eight different sites in the city. When we began using the Flint River as a source in April of 2014, our first round of quarterly testing for TTHM was conducted in May. At that time, only two testing sites were below the allowable maximum; in August, every site was above the allowable maximum.

The City, with the help of LAN engineering, developed an Operation Evaluation Report (OER) which contained an action plan to address the issue. That plan was implemented with steps including upgrading the ozone treatment process at the Water Treatment Plant (WTP), **complete softening,** increasing water main/hydrant flushing to decrease stagnation, small scale testing of treatment to identify areas of improvement, applying overall improvements to the WTP through operational changes and to the distribution system through water circulation modeling

Because the public notice is based on a **locational running** annual average of quarterly results a notice was not required until November, at which time all but one testing **location** was below the allowable levels. **Our most recent testing in February 2015 showed all locations well below state allowable levels; however, the locational running annual average (based on the four most recent quarters – May 2014 – Feb. 2015) results in all but two locations being below the allowable level.** (See the attached graph outlining our progress.)

We have taken many steps to continue to improve the safety and quality of Flint's water, including bringing in international urban water system consultants, Veolia North America, and establishing two advisory committees: a Citizens Advisory Committee, along with a Technical Advisory Committee made up of representatives from the University of Michigan, Michigan State University, Kettering University, Mott Community College, Genesys, McLaren, and Hurley Hospitals along with local health officials including the Genesee Medical Society the Genesee County Public Health Department, the Michigan Department of Environmental Quality and the U.S. Environmental Protection Agency.

We have also established a hotline 810-787-6537 and a place for continuing updates on the city's website cityofflint.com and have encouraged residents who are concerned about their water to report it to us immediately so that we can make arrangements for on-site testing. Although we have been offering this for more than a month, to date only a few residents have requested on-site testing. All residents wishing to have their water tested can call the hotline number or send an email to flintwater@cityofflint.com.

Despite our progress, we are required by law to once again advise residents about what *was* an excess of TTHM in Flint's water system at the eight testing sights last year. The letter – a draft of which is enclosed for your information – includes legally required language recommending that residents who have (severely compromised immune systems, have an infant, or are elderly) should contact their

physician. This is standard language from the U.S. EPA which is included in every water quality or water related report the City publishes, regardless of whether there are specific health or quality concerns, and is used by other municipalities nationwide. We failed to alert you in advance of our original letter we were required to send out earlier this year – and we don't want to make that mistake again. We have enclosed a fact sheet and a list of Frequently Asked Questions in an effort to help you respond to any inquiries you may get from patients.

We recognize that Flint's water system may still be challenged with *quality* issues such as discoloration or odor but we assure you the *safety* of the water meets all state standards. You should also know that the City also publishes its monthly tests for a wide variety of water treatment components, including chloride levels, on its website at cityofflint.com/?page_id=5643.

We urge you to contact the City of Flint Water Treatment Plant with any specific questions or concerns you may have on this issue. We will do our absolute best to get you the answers you need.

Sincerely,

DRAFT

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 12:57 PM
To: emurphy@cityofflint.com
Subject: RE: Water Supply Sources

Elizabeth,

Yes, a source water assessment was completed for the Flint River and a report is available. I will send it to you asap (later today or on Monday).

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 11:01 AM
To: 'emurphy@cityofflint.com'
Subject: FW: Water Supply Sources

Elizabeth,

Below is a link to our website that lists all of surface water systems in Michigan. You will need to scroll down to the bottom of the list to see the listing of supplies using a river as their source. Also, I am not aware of any source water assessment conducted for the Flint River watershed; however, I would like to confirm that. I will let you know asap once I obtain the confirmation.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-9775--,00.html

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Thursday, February 12, 2015 11:43 AM
To: 'bwright@cityofflint.com';'rbincsik@cityofflint.com'
Subject: Residential customers

Brent, Rob….

I need Flint's most recent number of active residential service connections as part of updating MDEQ's estimated population served. Also, add in commercial and industrial accounts; however, keep them separate. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, May 01, 2015 10:01 AM
To: 'rbincsik@cityofflint.com'
Subject: Watermain breaks

Robert,

Based upon the discussion during our April 29th site visit, you have forwarded available information concerning the occurrence (location & date) of watermain breaks in the city of Flint during 2014. Please provide us with a copy of this information at your earliest convenience. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 12, 2015 4:33 PM
To: Mike Glasgow
Subject: distribution WQPs

Good afternoon Mike, we did not receive a 2nd half 2014 water quality parameters in the distribution system for the City of Flint. Please email me a copy when you get this.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

This Document is a Non-Responsive Attachment.

From: Rosenthal, Adam (DEQ)
Sent: Friday, February 27, 2015 9:13 AM
To: Mike Glasgow
Subject: Lead Copper Cert form

Morning Mike, I need your lead/copper cert form – it was due by 1/10/15. I also need your 4th quarter WQPs for 2014. EPA is asking due to your 104 hit on lead. If you can, I need them today.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, March 10, 2015 9:53 AM
To: Michael Glasgow
Subject: RE: City of Flint Water Plant Monitoring Results

Got it, thanks Mike.

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Tuesday, March 10, 2015 9:51 AM
To: Rosenthal, Adam (DEQ)
Subject: City of Flint Water Plant Monitoring Results

Adam,

Good morning, here are the results of our February monthly bromate monitoring, and our first quarter radiological testing.

Mike Glasgow
City of Flint Water Plant

From: Rosenthal, Adam (DEQ)
Sent: Thursday, May 14, 2015 9:50 AM
To: Michael Glasgow
Subject: RE: distribution WQPs

thank you sir.

Adam

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Thursday, May 14, 2015 8:53 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: distribution WQPs

Adam,

Here is the 1st quarter WQP for 2015.

Mike

On Wed, May 13, 2015 at 3:07 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

got it. Now I need the 1st qtr 2015.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, May 13, 2015 11:54 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: distribution WQPs

Adam,

Here are the 2014 WQM parameters during full time plant operation.

Mike

On Tue, May 12, 2015 at 4:32 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Good afternoon Mike, we did not receive a 2nd half 2014 water quality parameters in the distribution system for the City of Flint. Please email me a copy when you get this.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, May 13, 2015 3:08 PM
To: Michael Glasgow
Subject: RE: distribution WQPs

got it. Now I need the 1st qtr 2015.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, May 13, 2015 11:54 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: distribution WQPs

Adam,

Here are the 2014 WQM parameters during full time plant operation.

Mike

On Tue, May 12, 2015 at 4:32 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Good afternoon Mike, we did not receive a 2nd half 2014 water quality parameters in the distribution system for the City of Flint. Please email me a copy when you get this.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

This Document is a Non-Responsive Attachment.

From:	Busch, Stephen (DEQ)
Sent:	Friday, July 24, 2015 3:46 PM
To:	Wurfel, Brad (DEQ)
Cc:	Shekter Smith, Liane (DEQ);Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Prysby, Mike (DEQ);Benzie, Richard (DEQ)
Subject:	RE: Need upate on lead / copper tests for Flint
Attachments:	DWSD-CorrosionControlStudy.pdf; Flint lead history.pdf; DWSD-Flint-1993-Lead-Letter.pdf

Brad,

As we discussed, the City has completed the last round of monitoring (Jan 1 – June 30, 2015). The last samples came in about a week ago. We have made the compliance determination that the 90th percentile level is 11 parts per billion, which is below the Action Level Standard of 15 parts per billion (there is no Lead maximum contaminant level standard). The federal rule requires measuring lead levels in water from household plumbing materials to determine the corrosivity of the City's water in order to limit exposure.

I have provided a summary of Flint's lead compliance monitoring from the last 20+ years since this regulation started in 1991. The City of Flint itself has never had a 90th percentile level exceed the 15 part per billion action level. Sampling requirements look at the worst case plumbing materials. Samples must be collected in accordance with the regulatory requirements and criteria in order to be used for compliance determinations.

Because the City of Flint serves a population of over 50,000 they are required to have Fully Optimized Corrosion Control. While it is possible to meet the fully optimized requirement without additional treatment, based on their two rounds of sampling since switching to the Flint River, we have determined they did not meet the eligibility for this per the regulation. They now have to complete a study (within 18 months) and are then allowed a period of additional time (2 additional years) to install the selected treatment for Fully Optimized Corrosion Control in accordance with the regulatory requirements. This is what DWSD was required to do back in 1993 – 1997 (see attached letter and study). We are planning to suggest the City directly submit a treatment process to shorten the timeline to achieve full optimization. This letter is currently being drafted but won't be ready to mail out for another week.

Liane and I had a conference call with EPA region V in Chicago on Tuesday to go over all of this and they are in support of these next steps with the City.

The matter will be potentially further complicated when the City switches over to water from the Karegnondi Water Authority next year to re-evaluate the continuing requirement to fully optimize corrosion control.

The DEQ recognizes that there is has been no level of lead exposure determined to be safe, but again the regulation was developed to optimize water corrosivity to limit exposure and the City is following the regulatory requirements.

Lead is not coming from the Flint River or the City's Water Treatment Plant or the public distribution system. It is from lead service lines into homes and from plumbing materials and fixtures within the private property of the household.

As watermains are replaced within the City lead services associated with that section of watermain would be replaced in order to reconnect to City water. This would also place burden on the homeowner to pay for having the service line re-plumbed. However, since 2000 only 16 miles of the City's 500 miles of watermain have been replaced as they did not have the financial means to do so.

Let us know if there are questions or you need any additional information.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, July 24, 2015 12:09 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Shekter Smith, Liane (DEQ); Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Subject: Need upate on lead / copper tests for Flint

Guys, the Flint Ministers met with the Governor's office again last week. They also brought along some folks from the community – a college prof and a GM engineer – who imparted that 80 water tests in Flint have shown high lead levels.

Could use an upate on the January / june testing results, as well as recap of the December testing numbers, and any overview you can offer to edify this conversation.
Call me or email today if possible. Thanks!
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

This Document is a Non-Responsive Attachment.

City of Flint Lead and Copper Rule Monitoring History						
Monitoring Period	90th Percentile (parts per billion)	Number of Samples above 15 ppb	Samples Required	Samples Collected	Required Frequency	
Jan. - June 2015	11 ppb	6	60	68		*Unofficial
July - Dec. 2014	6 ppb	2	100	100	6 months	
New Source and Treatment - Flint River and Flint WTP						
June - Sept. 2011	0 ppb	0	23	23	3 years	
June - Sept. 2008	0 ppb	0	33	33	3 years	
June - Sept. 2005	1.4 ppb	0	33	33	3 years	
June - Sept. 2002	4 ppb	1	33	33	3 years	
June - Sept. 2001	4.4 ppb	0	33	33	1 year	
June - Sept. 2000	7 ppb	2	33	33	1 year	
Jan. - June 1999	5 ppb	0	33	33	1 year	
July - Dec. 1998	7.4 ppb	1	33	33	6 months	
July - Dec. 1997	5 ppb	1	33	33	6 months	
Jan. - June 1997	4.5 ppb	1	33	33	6 months	
DWSD Study and OCC Treatment						
July -Dec. 1992	14.4 ppb	3	33	33	6 months	
Jan. - June 1992	15 ppb	4	33	33	6 months	

This Document is a Non-Responsive Attachment.

From: Wurfel, Brad (DEQ)
Sent: Thursday, September 03, 2015 11:07 AM
To: Wurfel, Sara (GOV) (Wurfels@michigan.gov);Murray, David (GOV);Brown, Jessica (GOV);Muchmore, Dennis (GOV);Hollins, Harvey (GOV)
Cc: Wyant, Dan (WyantD@michigan.gov);Busch, Stephen (DEQ);Shekter Smith, Liane (DNRE) (SHEKTERL@michigan.gov);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ)
Subject: Latest on Flint water

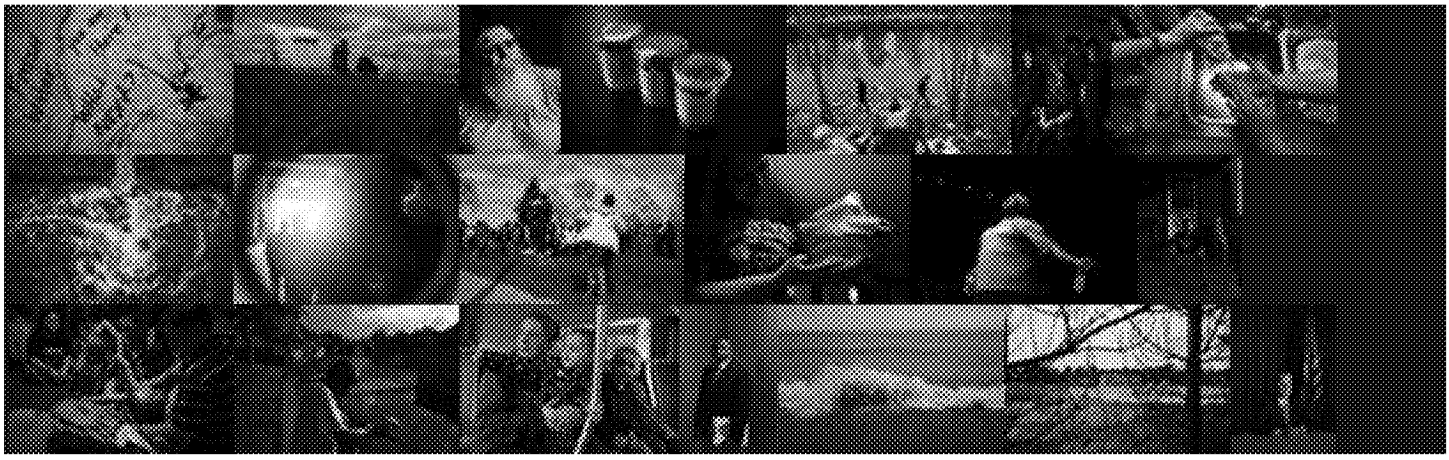
Here's what Fonger published yesterday.

While the reporter declined to use the full page statement I sent him, he apparently read it to the Virginia tech researcher, who didn't like my statement to the Journal and has sent a FOIA to the department for any and all communications.

http://www.mlive.com/news/flint/index.ssf/2015/09/new_testing_shows_flint_water.html#incart_m-rpt-2

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

Lead leaches into 'very corrosive' Flint drinking water, researchers say



Fresh Water
You are Here!
Who's Next?
Flint



A map previously used during protests against Flint's water quality hangs in the home of area resident Tony Palladeno Jr., 53, on Monday, May 18, 2015 in Flint. Palladeno has been regularly active at protests as well as City Council meetings. Brittany Greeson | MLive.com

Jake May | jmay2@mlive.com

Print Email



By Ron Fonger | rfonger1@mlive.com The Flint Journal

on September 02, 2015 at 5:41 PM, updated September 03, 2015 at 9:01 AM

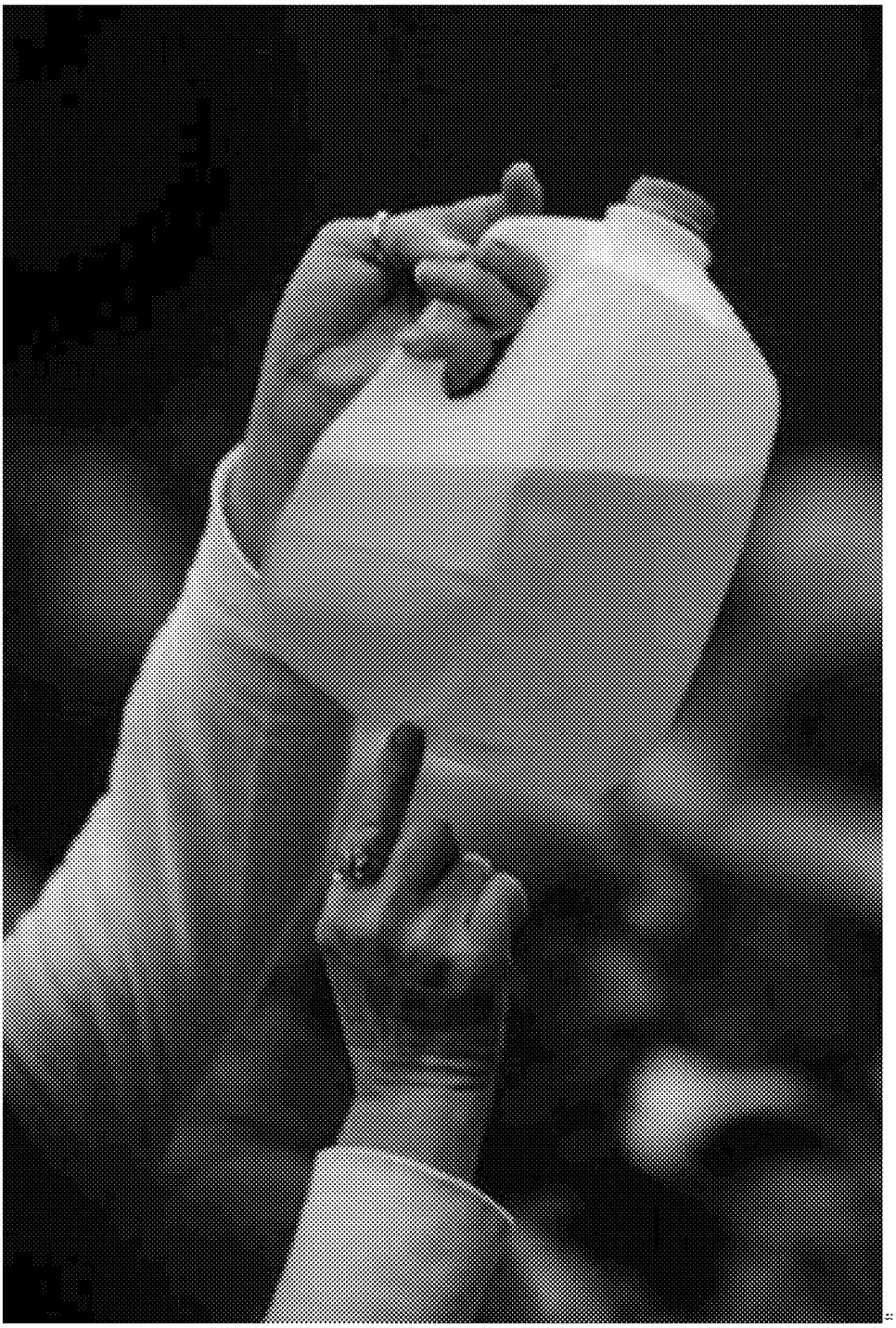
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FLINT WATER

All Stories



FLINT, MI -- Flint drinking water is "very corrosive" and "causing lead contamination in homes," researchers from Virginia Tech University reported online Wednesday, Sept. 2.

"On a scientific basis, Flint River water leaches more lead from plumbing than does Detroit water," the report concludes. "This is creating a public health threat in some Flint homes that have lead pipe or lead solder."

The Virginia Tech report comes as students there, overseen by Professor Marc Edwards, are in the final days of testing water collected from 300 sample kits distributed to Flint residents.

On Monday, Aug. 31, the researchers reported 42 percent of 120 initial samples from Flint had lead levels that were more than 5 parts per billion, "which suggests a serious lead-in-water problem, according to our experience and criteria."

Virginia Tech was initially contacted by a Flint resident who had concerns about lead in Flint water. It has been working with citizen groups in Flint such as Water You Fighting For.

Twenty percent of the first samples also exceeded the U.S. Environmental Protection Agency lead action limit of 15 ppb, the report said.

The EPA requires water systems like Flint's to collect tap samples from sites that are more likely to have plumbing materials containing lead.

If more than 10 percent of samples exceed 15 ppb, then water systems are required to take action, including steps to optimize corrosion control treatment.

Lead is a toxic metal that was used for many years in products found in and around homes, according to EPA.

"Even at low levels, lead may cause a range of health effects, including behavioral problems and learning disabilities," EPA's website says. "Children 6 years old and under are most at risk because this is when the brain is developing."

The Virginia Tech report on Flint River water comes two days after representatives of three organizations delivered more than 26,000 online petition signatures to Mayor Dayne Walling, demanding the city end its use of the Flint River and reconnect the city to the Detroit water system.

The petition language says high lead levels are one reason the city should no longer use the river as a drinking water source.

Walling and Department of Public Works Director Howard Croft issued statements in response to questions about lead in Flint water Wednesday after Croft declined to discuss the issue in a news conference Tuesday.

Flint spokesman Jason Lorenz said the two would not comment further Wednesday.

"The city of Flint is currently in compliance with the safety mandates of the Michigan Department of Environmental Quality and continues to work with them to stay in compliance with all safety and quality standards," Croft's statement said. "We have also been in constant contact with Virginia Tech, sharing information as it becomes available."

Walling, who has supported Flint's continued use of the Flint River as a drinking water source, said, "Lead can be a concern in communities with older public and private infrastructure.

"The city of Flint has offered free and independent testing to residents since spring, and I encourage people to use this service if they have questions," Walling's statement said.

Edwards, a professor of civil and environmental engineering, said the elevated lead levels he has seen in Flint tap water are tied to a corrosive water source that contains about eight times more chloride than Detroit water does.

"Chloride is generally considered to be very corrosive to iron. For instance, chloride present in road salts applied in the winter causes iron in cars and bridges to rust," the Virginia Tech team's website says.

"This could be a huge public health problem. ... The Flint water just ate the pipe up," Edwards said of the testing he has overseen so far.

In the testing, researchers took copper pipe pieces joined with lead solder inside them, according to the report, which says lead solder is probably present in plumbing systems of many Flint homes built before 1986.

Lead solder-copper pipe test pieces were placed in containers filled with water from Detroit and Flint in the experiment, according to the report.

"If it were me, I would not be using (Flint River water) for cooking or drinking unless I had it tested for lead," said Edwards, who previously mounted a six-year campaign that succeeded in forcing the U.S. Centers for Disease Control and Prevention to admit it had misled the public about the risk of lead in the Washington, D.C., area's drinking water, according to The Washington Post.

"Bottled or filtered water (is what I would use for) children under 6 years old or if I was pregnant," he said.

Brad Wurfel, communications director for the state Department of Environmental Quality, said the preliminary water testing results from Virginia Tech don't jibe with two separate rounds of testing during the past year by the city.

That testing indicated "Flint drinking water meets state and federal safe drinking water standards," Wurfel said.

Wurfel said lead levels detected in testing are not the result of water containing lead when it leaves Flint's treatment plant. But he said the state "has requested Flint optimize its water treatment to further limit exposure to lead from plumbing in homes."

The concerns about lead are the latest challenge for the Flint water system since the city started using the Flint River to replace Lake Huron water sold by the city of Detroit in April 2014.

Since the switch, the city has been plagued by issues such as water main breaks and boil water advisories because of bacteria and has been in violation of the Safe Drinking Water Act because of high levels of total trihalomethanes (TTHM), a byproduct of chlorinating river water.

The Rev. Allen Overton, who hand-delivered petitions to Walling on Monday, asking that city officials reconnect the Flint water system to Detroit, said Wednesday that the Virginia Tech experiment is more evidence Flint is not using the best quality of water available.

"We have a major health issue here, (and) they are not being honest with the citizens of Flint," Overton said.

City Council President Josh Freeman said the city has been willing to provide customers with free water testing and has taken action — such as installing a new $1.6 million filtration system — to address problems such as TTHM.

Councilman Eric Mays said, as more water testing is done, it becomes clearer that Flint should be negotiating with Detroit for a new, short-term water contract as work continues on the Karegnondi Water Authority pipeline.

The pipeline, a partnership between the city and Genesee County, is expected to bring untreated Lake Huron water to Flint at some point in 2016.

"They are trying to make the water safe by trial and error," said Mays, who called Flint's water situation "a disgrace."

From:	Shekter Smith, Liane (DEQ)
Sent:	Monday, September 21, 2015 11:56 AM
To:	Busch, Stephen (DEQ);Benzie, Richard (DEQ);Sygo, Jim (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Wyant, Dan (DEQ)
Cc:	Thelen, Mary Beth (DEQ);Feuerstein, Heather (DEQ);Shaler, Karen (DEQ);Devereaux, Tracy Jo (DEQ)
Subject:	FW: Flint MI: LCR Enforcement Issues
Attachments:	image003.png; ATT00001.htm; Flint LCR for FOIA 6429-15 (5).pdf; ATT00002.htm; FOIA 15-585 Part 2 55pgs (12).pdf; ATT00003.htm

EPA just shared the attached

From: Fortin, Denise [mailto:Fortin.Denise@epa.gov]
Sent: Monday, September 21, 2015 11:44 AM
To: Shekter Smith, Liane (DEQ)
Subject: Fwd: Flint MI: LCR Enforcement Issues

Sent from my iPhone

Begin forwarded message:

From: "Henry, Timothy" <henry.timothy@epa.gov>
To: "Fortin, Denise" <Fortin.Denise@epa.gov>
Subject: FW: Flint MI: LCR Enforcement Issues

Tim Henry
Deputy Director, Water Division
U.S. EPA (W-15J)
77 W. Jackson Blvd., Chicago, IL 60604-3590
Phone: 312.886.6107 Fax: 312.692.2578

From: Damato, Nicholas
Sent: Monday, September 21, 2015 7:56 AM
To: Henry, Timothy; Hyde, Tinka
Subject: FW: Flint MI: LCR Enforcement Issues
Importance: High

Tim & Tinka,

Miguel forwarded the email below from Marc Edwards. Miguel then called because he wanted Tinka to have a heads up especially on the info in the ACLU video and didn't want her blindsided with the content – it should be reviewed carefully. Tom, Rita, Heather, Jennifer, Miguel & I will be having a call with ORC & OECA this morning on Marc's email.

Nick

From: Deltoral, Miguel
Sent: Monday, September 21, 2015 6:52 AM
To: Damato, Nicholas
Subject: Fw: Flint MI: LCR Enforcement Issues
Importance: High

Just noticed you weren't copied on this...

Miguel A. Del Toral
Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Marc Edwards <edwardsm@vt.edu>
Sent: Sunday, September 20, 2015 09:29 PM
To: Schock, Michael; Lytle, Darren; kempic.jeffrey@epa.gove; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel
Subject: Flint MI: LCR Enforcement Issues

Mike, Darren, Jeff, Eric, Carol and Miguel and R5 MI/Enforcement personnel (as listed on the R5 webpage).

In this e-mail, I am making you aware of what we know regarding the Flint lead situation.

1) They do not have an approved lead sampling pool. Only 13 of the lowest lead sampled homes from 2014, were resampled in 2015.
The homes sampling high in 2014, were not asked to be resampled.
At best, their program is sending out sampling bottles at random across the city.

2) This message exemplifies the type of site selection, that they are doing to satisfy their high risk LCR monitoring pool site.
That is, none. They are not even hiding it.
http://www.flintneighborhoodsunited.org/drinking-water-testing/.

3) Furthermore, in a video now on the ACLU website, at the end of the interview, Mike Glasgow (Flint LCR program) notes what is perfectly obvious from looking at the MDEQ FOIA materials.
"we threw out bottles everywhere just to collect as many as we can, just to hit our number, and we just turn in every result we get in."
Moreover, they do not have the records to show the homes have lead pipe. ***"we are still looking for the records"***
See video here. Start at 4 minutes and 13 seconds to see the admission. *https://vimeo.com/139882021*

4) On top of that, according to my count, MDEQ covered up no fewer than 5 violations in the 2015 sample round. These include:

a) Technical violation in that what they now stamp as the "draft" report (attached) is late (the signed date is 7/28/2015).
It was due 7/10/2015. The final "revised" report is dated 8/20/2015 (also attached), which is 40 days late.

b) Although 87 sites from 2014 were not resampled, no written justification for the site changes was provided in the FOIA materials, and this is required by law.
The statement given today by Flint, that residents were not resampled because they did not want to participate, is contradicted by my conversations with residents.

c) In the original 71 samples Flint submitted late, the lead 90%ile action level was exceeded. MDEQ took the initiative to invalidate 2 samples, dropping Flint below the Action Level.
Flint never requested in writing that any of the samples be invalidated (see the comments written in the box of page 1, FOIA 15-585).
Mike Glasgow says that the 2 high samples were deleted based on the conference call. Only the high samples were scrutinized for meeting the sample pool criteria.
No low samples were investigated. I have the e-mails.

4) The "Draft 7/28/2015" and "revised 8/20/2015" LCR reports, on page 1, check boxes that note Tier 1 sites are not used. MDEQ asks no questions about that. In video Mike admits he has no knowledge of what sites actually have lead pipe or not.

5) Flint did not achieve the minimum number of samples as determined before the sampling round. In his e-mail Mike Glasgow (see below, and see FLINT LCR FOR FOIA...pdf) acknowledges this will be a technical violation. The draft LCR clearly indicates that the minimum was not achieved. MDEQ responds "we are discussing options" to handle this technical violation. In the August 20th revised final report, even this technical violation magically disappears (see comments box on page 1....).

KEY POINTS:

1) FLINT HAS LOTS OF LEAD PIPE, NO CORROSION CONTROL TREATMENT, AND HAS HAD NO LEGITIMATE LCR TESTING FOR AT LEAST A YEAR.

2) AMONGST LOW INCOME INFANTS, BREAST FEEDING RATES ARE LOWER, AND FORMULA USE IS HIGHER. MANY FLINTS RESIDENTS CANNOT AFFORD TO FLUSH DUE TO HIGH WATER RATES. THEY CANNOT AFFORD BOTTLED WATER. THIS IS AN UNPRECEDENTED SITUATION AND EPA NEEDS TO TAKE THIS SERIOUSLY. NOW.

3) WE HAVE ONE CHILD WITH ELEVATED BLOOD LEAD ALREADY...IN FACT, THAT IS THE ONLY REASON WE KNOW ABOUT ANY OF THE ABOVE.

4) MDEQ IS STILL PUBLICLY INSISTING FLINT WATER HAS TESTED SAFE, IS SAFE, AND THAT FLINT HAS **NO VIOLATIONS** of any sort.

I believe that someone at HQ or in R5 should immediately take decisive action on this issue to protect the public.

Marc

N DEPARTMENT OF ENVIRONMENTAL QUALITY
F DRINKING WATER AND MUNICIPAL ASSISTANCE

DRAFT

AND COPPER REPORT AND
ONSUMER NOTICE OF LEAD RESULT
CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee
3. WSSN: **2310**
4. Population: 99,763
5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 100 60
7. # of Samples Taken: 71 ~~72~~ 69
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see *Instructions* paragraph 11, subparagraph "Sample Category."
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	

Comments:
A total of 175 sample bottles and instructions were distributed to city residents. We are continuing to solicit samples due to the fact that we did not reach the minimum number for this monitoring period.

Lead service - majority (30,000?)

10. NAME:

Name: Michael Glasgow

Title: Utilites Administrator Phone: 810-766-7135 Date: 7/28/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed) DRAFT

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
212 Browning Ave.	2/18/15	1	L	P	104	N.D.	54945
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave. ok	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave. ok	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquettte Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed) DRAFT

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2606 Mountain Ave.	4/15/15	1	L	P	N.D.	N.D.	60546
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
~~625 S. Grand Traverse~~	~~5/18/15~~	~~5~~	~~L~~	~~C,P~~	~~20~~	~~0.14~~	64284 X
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robbie Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robbie Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7th St.	6/12/15	1	L	C,P	7	0.07	68792

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

19

DRAFT

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/14/15	1	L	P	18	N.D.	68794
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

20

11. TAP SAMPLING DATA: (Use additional sheets as needed)

DRAFT

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169
2114 Flushing Rd.	6/30/15	1	L	C,P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

Consumer Notice of Lead Result in Drinking Water DRAFT

Water Supply Name:	City of Flint		
County:	Genesee	WSSN:	**2310**
Sample Location:	401 E. Newall St.	Date Sampled:	**3/2/15**

Thank you for participating in the lead and copper monitoring of drinking water. The levels of lead and copper found at your location are in the table below.

Key to Table	Contaminant	AL	MCLG	Your Result
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. **ppb:** parts per billion or micrograms per liter.	Lead (ppb)	15	0	5
	Copper (ppb)	1300	1300	Not Detected

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and it can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

To reduce exposure to lead in drinking water:

- *Run your water to flush out lead.* Run the water until it becomes cold.
- *Use cold water for cooking and preparing baby formula.* Do not cook with or drink water from the hot water tap; lead dissolves more easily in hot water.
- *Do not boil water to remove lead.* Boiling water will not reduce lead levels.
- *Look for alternative sources or treatment of water.* If your lead result is above 15 ppb, you may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for information on performance standards for water filters.
- *Identify if your plumbing fixtures contain lead.* New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised or labeled as "lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water.

For more information, contact us at: City of Flint Water Plant (810) 787-6537.
For more information on reducing lead exposure around your home and the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

Certification: WSSN: 2310

I certify that this public water supply has provided the consumer notice of lead result to persons served at each of the taps that was tested, either by mail or by another method approved by the DEQ, within 30 days of knowing the result. The Notice includes required content.

Signature	Title	Date Sent to Consumer
Michael Glasgow	UTILITIES ADMINISTRATOR	3/17/15

Reminder to water supplier: Complete this certification on only one (1) example copy of a notice sent to a consumer and submit it to the DEQ.

Rosenthal, Adam (DEQ)

From: Rosenthal, Adam (DEQ)
Sent: Monday, August 03, 2015 9:57 AM
To: 'Michael Glasgow'
Subject: RE: PbCu Cert form

Morning Mike, I also need copies of all 68 consumer notices. I have 1 from 401 E. Newall St., so 67 more.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Friday, July 31, 2015 10:28 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: PbCu Cert form

Adam,

Here is the lead & copper report. I have also sent a hard copy out via USPS.

On Thu, Jul 30, 2015 at 9:33 AM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Morning Mike, I'm preparing the 90th percentile letter and I need your lead copper certification form with the cert of notification to the customers. What I have are 68 results that are routine from 1/1 – 6/30/15. The link below is for the form if you don't have one.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-61640--,00.html

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

--
Mike Glasgow
Utilities Administrator
City of Flint
1101 S. Saginaw St.
Flint, MI 48502
(810)766-7135 ext. 2602

Rosenthal, Adam (DEQ)

From: Rosenthal, Adam (DEQ)
Sent: Friday, July 10, 2015 11:28 AM
To: 'Michael Glasgow'
Cc: Brent Wright
Subject: RE: lead/copper

we are discussing options regarding this and future rounds of monitoring and will get back with you.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Thursday, July 09, 2015 2:19 PM
To: Rosenthal, Adam (DEQ)
Cc: Brent Wright
Subject: Re: lead/copper

Adam,

I just sent the last of the samples to the lab today. Unfortunately we did not reach 100 samples. I believe the count I have is 76 total. Since we have had a few more hits this round, we are going to continue to solicit samples for our own informational purposes. I am disappointed in the turnout of sampling, we distributed close to 200 sample bottles. With this monitoring violation will we be required to collect another round of 100 samples?

Also, I have attached a copy of our June bromate test results.

On Thu, Jul 9, 2015 at 9:55 AM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Morning Mike, do you have a count on how many lead/copper samples were turned in? I know they all haven't been run at the lab yet, but if I can verify how many there will be, that would be good. So far I have 70 results and the City is below the AL for lead – current 90^{th} = 13 ppb. All the copper results are below.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

--

Mike Glasgow
Utilities Administrator
City of Flint
1101 S. Saginaw St.
Flint, MI 48502
(810)766-7135 ext. 2602

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEAD AND COPPER REPORT AND CONSUMER NOTICE OF LEAD RESULT CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: **2310**
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 60 7. # of Samples Taken: 69
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see *Instructions* paragraph 11, subparagraph "Sample Category."
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	

Comments: Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples required was reduced to 60.

10. NAME:

Name: Michael Glasgow

Title: Utilites Administrator Phone: 810-766-7135 Date: 8/20/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave.	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave.	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquettte Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751
2606 Mountain Ave.	4/15/2015	1	L	P	N.D.	N.D.	60546

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robbie Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robbie Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7th St.	6/12/15	1	L	C,P	7	0.07	68792
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/15/14	1	L	P	18	N.D.	68794

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2114 Flushing Rd.	6/30/15	1	L	P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEAD AND COPPER REPORT AND CONSUMER NOTICE OF LEAD RESULT CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: **2310**
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 100 7. # of Samples Taken: 71
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see *Instructions* paragraph 11, subparagraph "Sample Category."
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	

Comments:
A total of 175 sample bottles and instructions were distributed to city residents. We are contiuning to solicit samples due to the fact that we did not reach the minimum number for this monitoring period.

10. NAME:

Name: Michael Glasgow

Title: Utilites Administrator Phone: 810-766-7135 Date: 7/28/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
212 Browning Ave.	2/18/15	1	L	P	104	N.D.	54945
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave.	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave.	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquettte Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2606 Mountain Ave.	4/15/15	1	L	P	N.D.	N.D.	60546
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
625 S. Grand Traverse	5/18/15	5	L	C,P	20	0.14	64284
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robbie Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robbie Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7th St.	6/12/15	1	L	C,P	7	0.07	68792

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/14/15	1	L	P	18	N.D.	68794
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category[1]	Service Lines[2]	Bldg Plumb-ing[2]	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169
2114 Flushing Rd.	6/30/15	1	L	C,P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033

[1] Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

[2] Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90th percentile	Ave	Max	# > AL
Pb				
Cu				

Consumer Notice of Lead Result in Drinking Water

Water Supply Name:	City of Flint		
County:	Genesee	WSSN:	**2310**
Sample Location:	401 E. Newall St.	Date Sampled:	**3/2/15**

Thank you for participating in the lead and copper monitoring of drinking water. The levels of lead and copper found at your location are in the table below.

Key to Table	Contaminant	AL	MCLG	Your Result
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. ppb: parts per billion or micrograms per liter.	Lead (ppb)	15	0	5
	Copper (ppb)	1300	1300	Not Detected

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and it can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

To reduce exposure to lead in drinking water:

- *Run your water to flush out lead.* Run the water until it becomes cold.
- *Use cold water for cooking and preparing baby formula.* Do not cook with or drink water from the hot water tap; lead dissolves more easily in hot water.
- *Do not boil water to remove lead.* Boiling water will not reduce lead levels.
- *Look for alternative sources or treatment of water.* If your lead result is above 15 ppb, you may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for information on performance standards for water filters.
- *Identify if your plumbing fixtures contain lead.* New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised or labeled as "lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water.

For more information, contact us at: City of Flint Water Plant (810) 787-6537.
For more information on reducing lead exposure around your home and the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

Certification: WSSN: 2310
I certify that this public water supply has provided the consumer notice of lead result to persons served at each of the taps that was tested, either by mail or by another method approved by the DEQ, within 30 days of knowing the result. The Notice includes required content.

Signature	Title	Date Sent to Consumer
Michael Glasgow	UTILITIES ADMINISTRATOR	3/17/15

Reminder to water supplier: Complete this certification on only one (1) example copy of a notice sent to a consumer and submit it to the DEQ.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF58413

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	778 E BUNDY AVE,FLINT	Source:	TYPE I	
Collected By:	SANDRA HULL	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/24/2015	06:25
Sample Point:	MAIN BATHROOM	Date Received:	03/31/2015	11:11
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	04/01/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	04/01/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF58414

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	3714 BEECHER RD,FLINT	Source:	TYPE I	
Collected By:	MELISSA MAYS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/24/2015	06:30
Sample Point:	KITCHEN	Date Received:	03/31/2015	11:11
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.52	04/01/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	04/01/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF59749

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1016 INGLESIDE AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	JAMES D JARVIS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	04/09/2015	07:00
Sample Point:	KITCHEN	Date Received:	04/14/2015	11:07
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.07	04/15/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.007	04/15/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Kristian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF59750

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1818 ROCK CREEK LN,FLINT	Source:	Single Family Dwelling	
Collected By:	HELEN HUNTER	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	04/06/2015	06:50
Sample Point:	MAIN BATHROOM	Date Received:	04/14/2015	11:07
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	04/15/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	04/15/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF59751

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	3010 CHEYENNE ST,FLINT	Source:	Single Family Dwelling	
Collected By:	GERTRUDE MARSHALL	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	04/03/2015	08:50
Sample Point:	KITCHEN	Date Received:	04/14/2015	11:07
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.10	04/15/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	04/15/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF61845

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	2020 CROOKED LN,FLINT	Source:	Single Family Dwelling	
Collected By:	TRACY & M IKE SARGENT	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	04/24/2015	07:00
Sample Point:	KITCHEN	Date Received:	05/04/2015	10:21
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.10	05/05/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	05/05/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF61846

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	310 E MOORE ST,FLINT	Source:	Single Family Dwelling	
Collected By:	HUSTON BOLDEN	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	04/22/2015	07:00
Sample Point:	KITCHEN	Date Received:	05/04/2015	10:21
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	05/05/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	05/05/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF67423

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	344 ROBBIE LN,FLINT	Source:	Single Family Dwelling	
Collected By:	CASSANDRA BROWN	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/31/2015	08:15
Sample Point:	BATHROOM	Date Received:	06/11/2015	10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.004	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
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MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF67424

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	357 ROBBIE LN,FLINT	Source:	Single Family Dwelling	
Collected By:	FRANK EVANS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/31/2015	08:00
Sample Point:	KITCHEN	Date Received:	06/11/2015	10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.20	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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810 257-3603

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AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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USEPA Region V Drinking Water Cert. No. MI00003
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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF67425

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	328 ROBBIE LN,FLINT	Source:	Single Family Dwelling	
Collected By:	WILLIE TURNER	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/30/2015	06:00
Sample Point:	KITCHEN	Date Received:	06/11/2015	10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.09	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF67426

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:		
Collection Address:	341 ROBBIE LN,FLINT	Source:	Single Family Dwelling	
Collected By:	FLORISSA STEBBINS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/31/2015	06:00
Sample Point:	KITCHEN	Date Received:	06/11/2015	10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.05	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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Sample Number
LF67427

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	353 ROBBIE LN,FLINT	Source:	Single Family Dwelling	
Collected By:	ZETAN EVANS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/30/2015	06:45
Sample Point:	BATHROOM	Date Received:	06/11/2015	10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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Laboratory Contacts
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Systems Mgmt. Unit Mgr: George Krisztian

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Sample Number
LF67428

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	349 ROBBIE LN,FLINT	Source:	Single Family Dwelling	
Collected By:	DORIS NUNN	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/31/2015	08:00
Sample Point:	KITCHEN	Date Received:	06/11/2015	10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
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Systems Mgmt. Unit Mgr: George Krisztian

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Sample Number
LF63410

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	631 ALVORD AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	JANICE BERRYMAN	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/06/2015	07:00
Sample Point:	MAIN BATHROOM	Date Received:	05/13/2015	11:26
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	05/14/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.042	05/14/2015	0.001	0.015	EPA 200.8	7439-92-1

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AL : Action Level
RL : Reporting Limit

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ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF63411

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	216 BROWNING AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	DEB	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/07/2015	08:00
Sample Point:	KITCHEN	Date Received:	05/13/2015	11:26
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.31	05/14/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.022	05/14/2015	0.001	0.015	EPA 200.8	7439-92-1

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810 257-3603

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AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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TEL: (517) 335-8184
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Sample Number
LF59748

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	212 BROWNING AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	LEEANNE WALTERS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	04/02/2015	08:00
Sample Point:	PRE P O S FILTER	Date Received:	04/14/2015	11:07
Water System:	Treated Public Distribution System	Purpose:	Other	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	04/16/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.707	04/16/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

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RL : Reporting Limit

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ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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TEL: (517) 335-8184
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Sample Number
LF54663

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	2205 FLUSHING RD,FLINT	Source:	TYPE I
Collected By:	CHRIS BEATENHEAD	Site Code:	
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/15/2015 06:00
Sample Point:	KITCHEN	Date Received:	02/17/2015 10:47
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.13	02/18/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	02/18/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

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AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF56223

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	4202 CUSTER AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	JACQUELINE PEMBERTON	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/04/2015	08:00
Sample Point:	KITCHEN	Date Received:	03/06/2015	11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.27	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.006	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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Laboratory Contacts
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Systems Mgmt. Unit Mgr: George Krisztian

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Sample Number
LF56224

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	212 BROWNING AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	LEEANNE WALTERS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/03/2015	06:00
Sample Point:	KITCHEN	Date Received:	03/06/2015	11:33
Water System:	Treated Public Distribution System	Purpose:	Other	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.397	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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CFU : Colony Forming Unit

Laboratory Contacts
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Systems Mgmt. Unit Mgr: George Krisztian

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Sample Number
LF56225

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	401 E NEWALL ST,FLINT	Source:	Single Family Dwelling	
Collected By:	MARK CROMWELL SR	Site Code:		
Township/Well#/Section:	//	Collector:	Other	
County:	Genesee	Date Collected:	03/02/2015	09:30
Sample Point:	KITCHEN	Date Received:	03/06/2015	11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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Systems Mgmt. Unit Mgr: George Krisztian

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Sample Number
LF56226

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	215 BROWNING AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	KEVIN & JENNIFER STARNES	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/02/2015	06:30
Sample Point:	KITCHEN	Date Received:	03/06/2015	11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.16	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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FAX: (517) 335-8562

Sample Number
LF56227

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	2615 TRUMBULL AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	JENNIFER PEDERSON	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	02/27/2015	10:00
Sample Point:	KITCHEN	Date Received:	03/06/2015	11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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FAX: (517) 335-8562

Sample Number
LF56228

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	201 BROWNING AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	FLOYD BELL	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/05/2015	09:30
Sample Point:	KITCHEN	Date Received:	03/06/2015	11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF54945

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	212 BROWNING AVE,FLINT	Source:	TYPE I	
Collected By:	LEANNE WALTERS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	02/18/2015	07:15
Sample Point:	KITCHEN	Date Received:	02/19/2015	11:13
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	02/20/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.104	02/20/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF54946

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1809 STEVENSON ST,FLINT	Source:	TYPE I	
Collected By:	MIKE TAYLOR	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	02/10/2015	06:30
Sample Point:	KITCHEN SINK	Date Received:	02/19/2015	11:13
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	02/20/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.010	02/20/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57728

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1224 DECKER ST,FLINT	Source:	Single Family Dwelling	
Collected By:	LOU ANNE MALIS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/17/2015	06:00
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.10	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.013	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57729

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	212 BROWNING AVE,FLINT	Source:	Single Family Dwelling
Collected By:	MIKE GLASGOW	Site Code:	
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	03/18/2015 11:10
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.004	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY

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TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57730

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1220 DECKER ST,FLINT	Source:	Single Family Dwelling	
Collected By:	CARMEN PULIDO	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/17/2015	06:00
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.004	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57731

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1379 WASHINGTON,FLINT	Source:	Single Family Dwelling	
Collected By:	ROXANNE PUTMAN	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/19/2015	08:30
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.008	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57732

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1383 WASHINGTON AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	ANTHONY PALLADENO	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/09/2015	08:00
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.16	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.007	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57733

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1372 WASHINGTON AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	ANTHONY PALLADENO JR	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/19/2015	08:00
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.14	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57734

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1383 WASHINGTON AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	ANTHONY PALLADENO III	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/19/2015	08:00
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.17	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.006	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57735

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1367 WASHINGTON AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	LEAH PALLADENO	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/17/2015	06:00
Sample Point:	MAIN BATHROOM	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.001	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

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Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57736

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1701 MARQUETTE DR,FLINT	Source:	Single Family Dwelling	
Collected By:	CHARMA DOMPREH	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	03/14/2015	09:40
Sample Point:	KITCHEN	Date Received:	03/24/2015	11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.19	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.001	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

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630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68791

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1615 S FRANKLIN AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	VIVAN GRIER	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	06/14/2015	09:45
Sample Point:	KITCHEN	Date Received:	06/19/2015	11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

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630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY
USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68792

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	853 E 7TH ST,FLINT	Source:	Single Family Dwelling	
Collected By:	LAURA STUDACHER	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	06/12/2015	06:30
Sample Point:	BATHROOM	Date Received:	06/19/2015	11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.07	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.007	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68793

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1150 WOODSIDE DR,FLINT	Source:	Single Family Dwelling	
Collected By:	DEBORAH CONRAD	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	06/14/2015	07:30
Sample Point:	KITCHEN	Date Received:	06/19/2015	11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.029	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68794

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	547 COPEMAN BLVD,FLINT	Source:	Single Family Dwelling	
Collected By:	LINDA LEE	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	06/14/2015	09:00
Sample Point:	KITCHEN	Date Received:	06/19/2015	11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.018	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U .S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

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AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
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MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68023

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	1807 OREN AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	MARK RUSSEL	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	06/08/2015	07:30
Sample Point:	BATHROOM	Date Received:	06/16/2015	11:11
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/17/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.021	06/17/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64282

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	625 S GRAND TRAVERSE,FLINT	Source:	TYPE III
Collected By:	MIKE GLASGOW	Site Code:	
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	05/15/2015 13:00
Sample Point:	BATHROOM	Date Received:	05/20/2015 11:24
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.14	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.017	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY

USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64283

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	3714 BEECHER RD,FLINT	Source:	Single Family Dwelling	
Collected By:	MELISSA MAYS	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/14/2015	06:00
Sample Point:	MAIN BATHROOM	Date Received:	05/20/2015	11:24
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.15	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.008	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64284

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	625 S GRAND TRAVERSE,FLINT	Source:	TYPE III	
Collected By:	MIKE SARGENT	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/18/2015	08:30
Sample Point:	UTILITY SINK	Date Received:	05/20/2015	11:24
Water System:	Treated Public Distribution System	Purpose:	Other	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.14	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.020	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

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MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
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MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64285

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310	
Collection Address:	912 LEXINGTON AVE,FLINT	Source:	Single Family Dwelling	
Collected By:	LAURA HATT	Site Code:		
Township/Well#/Section:	//	Collector:	Private Citizen	
County:	Genesee	Date Collected:	05/15/2015	09:00
Sample Point:	MAIN BATHROOM	Date Received:	05/20/2015	11:24
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring	

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.006	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

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MPN : Most Probable Number
CFU : Colony Forming Unit

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Systems Mgmt. Unit Mgr: George Krisztian

lead/copper Inbox ×

Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> Jul 9
to me

Morning Mike, do you have a count on how many lead/copper samples were turned in? I know they all haven't been run at the lab yet, but if I can verify how many there will be, that would be good. So far I have 70 results and the City is below the AL for lead – current 90th = 13 ppb. All the copper results are below.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

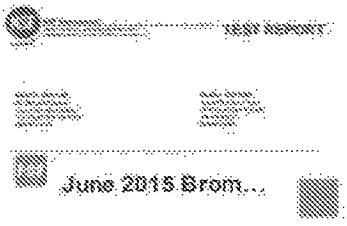
For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

Michael Glasgow <mglasgow@cityofflint.com> Jul 9
to Brent, Adam

Adam,

I just sent the last of the samples to the lab today. Unfortunately we did not reach 100 samples. I believe the count I have is 79 total. Since we have had a few more hits this round, we are going to continue to solicit samples for our own informational purposes. I am disappointed in the turnout of sampling, we distributed close to 200 sample bottles. With this monitoring violation will we be required to collect another round of 100 samples?

Also, I have attached a copy of our June bromate test results.



From: Wurfel, Sara (GOV)
Sent: Friday, October 02, 2015 12:05 AM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Lyon, Nick (DHHS);Lasher, Geralyn (DHHS);Minicuci, Angela (DHHS);Eisner, Jennifer (DHHS);Hertel, Elizabeth (DHHS)
Cc: Murray, David (GOV);Kennedy, Jordan (GOV);Brown, Jessica (GOV);Thelen, Mary Beth (DEQ)
Subject: Media conference call re: Flint water action plan
Attachments: NR 151002 - Flint water action plan.docx; Infographic - Flint Water Action Plan 10-2-15.pdf; Infographic - Flint water tips 10-2-15.pdf; Flint water - talking points (draft 151001).docx

Importance: High

Hi all –

Per conversations today, here are the details for Friday's embargoed media conference call.

Given some of the changing information, we added in a quick pre-brief with the Governor from 11 to 11:10 a.m. to give us a chance to go over any last details and finalize flow. This will be followed by the actual media conf. call from 11:15 to 11:40 a.m. Know that folks will be needing to head to Flint immediately afterward.

Sounds like we'll have Dan, Nick and Dr. Wells in person. That's great and will work best when most everyone is in the same room. The location is Romney Building, 1st floor communications conference room. The governor will be joining us from phone.

We'll need to be fairly quick in overview and framing comments so we can get to as many Qs as possible.

Please let me know if anyone has any Qs, concerns or needs anything else at all. Or if you'd like a listen only line for anyone back in the depts. to catch the call.

Otherwise, see you in the Romney by 11 a.m. tomorrow.

Thanks so much!
SW

p.s. Also attached key documents as stand right now – release, 2 infographics and the high level points.

Agenda:

11:15-11:16 AM	SW intro; sets parameters; introduces other participants; turns over to Governor for opening remarks
11:16-11:20 AM	Governor gives opening remarks; highlights reason for state action; introduces Director Wyant
11:20-11:24 AM	Director Wyant remarks; highlights key steps in the action plan; introduces Director Lyon
11:24-11:27 AM	Director Lyon remarks; highlights key health components of the plan and mentions Dr. Wells; turns back to Governor
11:27-11:37 AM	Governor opens it up for Q&A
11:37-11:39 AM	Governor closing remarks

11:39-11:40 AM SW wraps up call; reminds reporters of embargo, 1:30 p.m. press conference, and how to get a hold of everyone

Possible Topics:
Flint water action plan
Lead in Flint water
Handling of Flint water issue
Genesee Co. health emergency action
ACLU action
Hurley data
Reconnecting Flint to Detroit water

Media invited:
Flint area media (print, TV and radio) – Flint Journal/Ron Fonger; WJRT TV 12, WNEM TV 5, WEYI TV 25, WFNT Radio
Associated Press – Ed White
Detroit News – Jim Lynch
Detroit Free Press – Nancy Kaffer, Kristi Tanner & Kathy Gray
Michigan Radio – Steve Carmody

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

RICK SNYDER
GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray Governor's Office: 517-335-6397 Brad Wurfel, 517-284-6713 or Karen Tommasulo, 517-284-6714 Department of Environmental Quality Jennifer Eisner, 517-230-9804 Department of Health and Human Services	Friday, Oct. 2, 2015

Gov. Rick Snyder: Comprehensive action plan will help Flint residents address water concerns

Collaborative effort with state, federal and city leaders focuses on testing, assistance

FLINT, Mich. – Flint residents need to have access to safe, clean, water now and long into the future, Gov. Rick Snyder said, announcing a comprehensive action plan created with state, federal and city leaders to address concerns about drinking water.

The water leaving Flint's drinking water system is safe to drink, but some families with lead plumbing in their homes or service connections could experience higher levels of lead in the water that comes out of their faucets.

The action plan focuses on increasing water testing, offering additional precautions for families with lead plumbing in their homes, and providing long-term solutions to address the city's water infrastructure challenges. The plan was created at Snyder's direction by the Michigan Departments of Environmental Quality (DEQ) and Health and Human Services (DHHS), the U.S. Environmental Protection Agency, and the city of Flint.

"We are focused on helping ensure safe, clean, accessible drinking water and addressing and mitigating concerns and protecting public health," Snyder said. "Today's action plan builds upon ongoing work with local, state and federal agencies and our partnership with city and community leaders. Together, we are working to ensure that all Flint residents have accurate information and know that help is available to address potential problems."

The city and the state also are working together to gather more data to ensure the water that leaves the treatment plant as well as the water that arrives in Flint homes is safe for all residents. The plan includes:

- Testing in Flint public schools immediately to ensure that drinking water is safe, with testing also available at no cost to any other school in Flint.
- Offering free water testing to Flint residents to assure their drinking water is safe.
- Providing free water filters to residents with concerns or who are included in state assistance programs.
- Expanding health exposure testing of individual homes.

- Accelerating corrosion controls in the Flint drinking water system.
- Accelerating water system improvements to address replacing lead service lines.
- Expediting the completion of the Karegnondi Water Authority pipeline.
- Expanding a Safe Drinking Water Technical Advisory Committee to ensure the best technology, practices and science are being followed by adding an expert from the Environmental Protection Agency's Office of Research and Development to the group.
- Naming Dr. Eden Wells, chief medical executive for the Michigan Department of Health and Human Services, as the Flint drinking water public health adviser.
- Boosting a comprehensive lead education program to make sure residents have detailed information about how to protect themselves and their homes.

Residents can have their water tested by calling 810-787-6537 and pressing 1, or emailing flintwater@cityofflint.com. The DEQ is covering the cost of this testing.

State leaders have been working closely with state and federal lawmakers to tap resources at all levels of government to address concerns.

State health experts said there has been an increase in elevated childhood blood lead levels in some specific communities. Initial analysis of MDHHS data found that blood lead levels of children in Flint have followed an expected seasonal trend. While this analysis for Flint as a whole remains true, a comprehensive and detailed review breaking down data by ZIP codes with the city revealed that MDHHS data is consistent with a study presented recently by Hurley Children's Hospital.

"While we cannot conclusively say that the water source change is the sole cause of the increase, this analysis supports our efforts as we take active steps to reduce all potential lead exposures in Flint," MDHHS Director Nick Lyon said. "As part of this, we are working closely with our public and private partners to provide Flint residents on MDHHS assistance programs with free water filters and inform families about the steps they can take to reduce all lead exposures in their home."

As a part of the action plan, MDHHS is making National Sanitation Foundation certified water filters available to clients who are active Family Independence Program, Food Assistance Program, Child Development and Care or Social Security Insurance recipients.

"This action plan offers concrete steps we will take in a local, state and federal partnership to ensure all Flint residents have safe water to drink," DEQ Director Dan Wyant said. "The DEQ will work closely with the city to gather further data to ensure the water that leaves Flint's system as well as the water that arrives in Flint homes is safe to drink."

Additional information is available at www.michigan.gov/flintwater.

###

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- The Action Plan -

- Testing in Flint public schools immediately to ensure that **drinking water is safe**, with testing also available at no cost to any other school in Flint.
- **Offering free water testing** to Flint residents to assure their drinking water is safe.
- **Providing free water filters** to residents with concerns or who are included in state assistance programs.
- **Expanding health exposure testing** of individual homes.
- **Accelerating corrosion controls** in the Flint drinking water system.
- **Accelerating water system improvements** to address replacing lead service lines.
- Expediting the completion of the **Karegnondi Water Authority** pipeline.
- **Expanding a Safe Drinking Water Technical Advisory Committee** to ensure the best technology, practices and science are being followed by adding an expert from the Environmental Protection Agency's Office of Research and Development to the group.
- Naming Dr. Eden Wells, chief medical executive for the Michigan Department of Health and Human Services, as the **Flint drinking water public health adviser**.
- Boosting a **comprehensive lead education program** to make sure residents have detailed information about how to protect themselves and their homes.

To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit www.mi.gov/FlintWater for more information

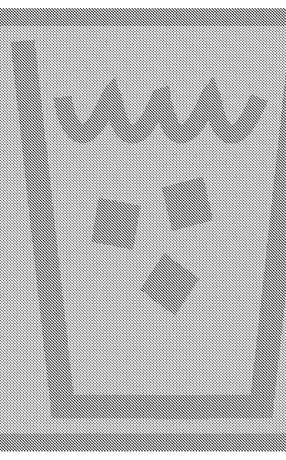
TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- Tips for Flint Residents -

Lead plumbing is common in homes built prior to 1986, and **anyone in the state with lead pipes in their home can take some extra precautions** to minimize lead in their drinking water.

1. Get your water tested at no cost to ensure water is safe. **To get your water tested**, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.

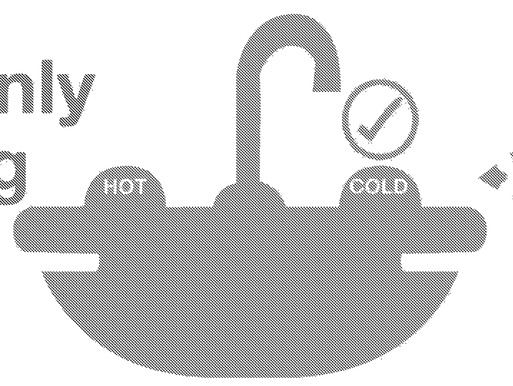


2. To ensure safe drinking water, you can also get a free filter. Please visit **mi.gov/FlintWater** to find where you can get a free filter.

3. It takes time for lead to accumulate in drinking water from plumbing, and so **flushing your pipes prior to using them** can minimize your exposure.

- To flush your pipes, run the water until it's as cold as it will go. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 5 minutes if you have not used any water in hours.
- In the city of Flint, **running the water for 5 minutes costs between 3 and 16 cents.**

4. Additionally, more lead gets into hot water than cold water. **Use only cold water for drinking, cooking and making baby formula.**



To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit **www.mi.gov/FlintWater** for more information

Flint Drinking Water Action Plan
Talking Points

Overall Messaging

- Repeated testing shows the water leaving Flint's drinking water system is safe to drink and meets all federal guidelines, including lead.
- After the switch the Flint River, the compliance testing protocol yielded results of 6 ppb in December 2014 and 11 ppb in June 2015. Both results were below the federal action level of 15 ppb.
- However, we recognize some residents experience higher levels of lead in the water that comes out of their faucets because of lead plumbing in the home, and that's a concern.
- Out of an abundance of caution, we want to address the needs of all Flint families, and so we have developed an action plan that includes both short- and long-term solutions.
- The state plan focuses on increasing water testing, offering additional precautions for families, and providing long-term solutions to address the city's water infrastructure.

Messaging regarding the action plan

The city and the state are working together to gather more data to ensure the water that leaves the treatment plant as well as the water that arrives in Flint homes is safe for all residents.

- **Immediately test Flint public schools to ensure that drinking water is safe. Testing will also be available at no cost to any other school in Flint.**
    - Although Flint's drinking water meets all federal requirements, the state wants to take extra steps to ensure that drinking water is safe for the city's children.
    - The state will fund this testing (about $30,000) at no cost to the city or the local schools, and make the results publicly available.

- **Expand health exposure testing of individual residences.**
    - To double-check its data as well as provide residents with an additional layer of assurance, the DEQ will conduct more tests at Flint properties.
    - The Technical Advisory Committee will determine the scope of this expanded testing.

- **Offer water testing at no cost to Flint residents to assure water is safe.**
    - Although all testing indicates water in the city of Flint meets all federal standards, we understand some residents are concerned.
    - To ensure water in individual homes is safe, free water testing is available to all Flint residents.
    - We encourage anyone with a concern to get their water tested.
    - Contact the city water department to have your water tested.

- **Accelerate optimizing corrosion controls in the Flint drinking water system.**

- A fully optimized corrosion control system can help coat the inside of pipes to minimize the amount of lead that enters the drinking water after it leaves the treatment plant.
- This is a helpful step that can help minimize lead system-wide, and we're pleased the city is moving to take this step.
- If asked: This was not initially required because a fully optimized corrosion control system is not federally required in many water systems. Even today, since Flint is meeting all federal standards, this fully optimized system is not required. However, to address public concerns and ensure every possible precaution is taken, the city is moving forward with installing this corrosion control system.

- **Expand the "Safe Drinking Water Technical Advisory Committee" to ensure the best technology, practices and science are being utilized, and add an expert from the EPA's Office of Research and Development to the group.**
  - The Safe Drinking Water Technical Advisory Committee will meet Oct. 7 to discuss fully optimizing the corrosion control system, expanding testing of at-risk properties, and other topics.
  - Tom Burke, the Deputy Assistant Administrator of EPA's Office of Research and Development as well as the EPA's Science Advisor, will participate on the committee. Prior to joining EPA, he held prominent positions at the Johns Hopkins Bloomberg School of Public Health and founded the Johns Hopkins Risk Sciences and Public Policy Institute. He brings substantial expertise, and we're pleased he is able join the committee.

- **Accelerate water system improvements to address replacement of lead service lines.**
  - Regardless of the drinking water source – whether it be DWSD, the Flint River or Lake Huron – the only permanent fix for lead is to replace all 18,000 of the private lead service lines in the city. These are the lines on private property that lead from the curb to individual homes.
  - This is a problem in communities statewide, and one we want to address with a long-term solution.
  - The state and EPA are working together to find a way for the city to access Drinking Water Revolving Loan funds for the work.

- **Expedite completion of Karegnondi Water Authority.**
  - The move to the Flint River was always a temporary measure until the connection to the KWA and to Lake Huron was completed.
  - This is the ultimate goal of the venture, and the state and locals will work together to speed up completion of the connection.
  -

- **Name Dr. Eden Wells as Flint Drinking Water Public Health Advisor.**
  - Dr. Wells is the Director for the Preventive Medicine Residency at the University of Michigan School of Public Health in Ann Arbor as well as the Chief Medical Executive for MDHHS.

- She brings years of experience in epidemiology and preventative medicine to the issue, and we're thrilled to have her expertise.
- Dr. Wells will coordinate with Hurley Medical Center to share data on blood lead levels in children, as well as address other emerging issues.

- **Provide water filters to residents of Flint.**
  - As an additional precaution, water filters will be available to low-income families.
  - This provides another safeguard to ensure everyone in the city of Flint has access to clean drinking water that they feel confident drinking.

- **Expand a comprehensive lead education initiative.**
  - Lead plumbing is common in homes built prior to 1986, and anyone in the state with lead pipes in their home can take some extra precautions to minimize lead in their drinking water.
  - It takes time for lead to accumulate in drinking water from plumbing, and so flushing your pipes prior to using them can minimize your exposure.
    - To flush your pipes, run the water until it's as cold as it will go. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 5 minutes if you have not used any water in hours.
    - In the city of Flint, running the water for 5 minutes only costs about 3-16 cents, depending on your faucet.
  - Additionally, more lead gets into hot water than cold water. Use only cold water for drinking, cooking and making baby formula.

From: Busch, Stephen (DEQ)
Sent: Friday, October 02, 2015 10:04 AM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ)
Subject: Fwd: Flint WTP Lead Samples
Attachments: 7Laboratory Sample Report.htm; ATT00001.htm; 3Laboratory Sample Report.htm; ATT00002.htm; 6Laboratory Sample Report.htm; ATT00003.htm; 2Laboratory Sample Report.htm; ATT00004.htm; 1Laboratory Sample Report.htm; ATT00005.htm; 4Laboratory Sample Report.htm; ATT00006.htm; 5Laboratory Sample Report.htm; ATT00007.htm

Here's the summary of the WTP lead testing.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

> **From:** "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
> **To:** "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
> **Cc:** "Richard Benzie P.E. (BENZIER@michigan.gov)" <BENZIER@michigan.gov>
> **Subject: Flint WTP Lead Samples**
>
> Karen,
>
> The Flint WTP treated water plant tap shows non-detect lead results. The sample dates were:
> 8/11/2015 Non-detect
> 5/12/2015 Non-detect
> 2/16/2015 Non-detect
> 1/22/2015 Non-detect
> 10/28/2014 Non-detect
> 8/6/2014 Non-detect
> 5/22/2014 Non-detect
>
> Stephen Busch, P.E.
> MDEQ Lansing District Coordinator
> Office of Drinking Water and Municipal Assistance
> Lansing and Jackson District Supervisor
> 517-643-2314
> buschs@michigan.gov

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF44687

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	10/28/2014 8:04:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	10/29/2014 11:15:14 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.62	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	143	20	mg/L	SM 2340 C
7440-23-5	SODIUM	18	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.02	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	60	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00006	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0014	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0080	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.012	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.012	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.033	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	0.0005	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	0.0005	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	ND	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	22	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:
A trip blank was not available for analysis with this sample.

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1
17:16:11 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF54660

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	2/16/2015 9:40:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	2/17/2015 10:46:51 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.57	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	180	20	mg/L	SM 2340 C
7440-23-5	SODIUM	25	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	ND	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	99	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0002	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.001	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0002	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00004	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0007	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0025	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.0018	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.0030	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.008	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0005	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	1.3	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	0.001	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	40	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

Endrin Aldehyde quality control results were outside allowed limits due to matrix interferences.
Unidentified hydrocarbon peak(s) were detected.

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:13:39 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT -WATER PLANT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF19430

Sample/Collection Information:

WSSN:	02310	Site Code:	LAB TAP
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT LAB
Collection Date:	5/22/2014 8:30:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	5/22/2014 1:19:53 PM	Collected By:	MICHAEL GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.16	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	209	20	mg/L	SM 2340 C
7440-23-5	SODIUM	15	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	79	4	mg/L	SM 4500-Cl E
7440-47-					

3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00006	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2

72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2
50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2

108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2
74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0010	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.013	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.022	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.020	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-					

4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2
75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.056	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	0.4	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	25	10	mg/L	SM 4500 SO4E
7440-28-					

0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:15:56 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF63412

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	5/12/2015 11:33:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	5/13/2015 11:26:43 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.87	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	163	20	mg/L	SM 2340 C
7440-23-5	SODIUM	18	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	90	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0002	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.001	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0002	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00004	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0013	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0077	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.0072	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.0099	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.026	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0005	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	ND	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	31	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:13:08 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF77582

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	8/11/2015 10:00:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	8/12/2015 1:21:17 PM	Collected By:	C BEATENHEAD

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.83	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	110	20	mg/L	SM 2340 C
7440-23-5	SODIUM	18	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.02	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	79	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0002	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.001	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0002	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00004	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0013	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0052	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.0015	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.0036	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.012	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0005	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	ND	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	21	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

Matrix spike recovery was below the acceptance criteria due to the presence of residual chlorine in the sample. This does not affect the validity of the sample result.

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:12:44 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF52712

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Other
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	1/22/2015 10:00:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	1/23/2015 8:37:00 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.01	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	0.001	0.001	mg/L	EPA 200.8
7440-28-					

0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:14:07 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
CITY OF FLINT WATER PLANT
FLINT MI 48505

Sample Number: LLF31222

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Other
Township:		Sample Reason:	Other
Section:		Sample Point:	Other
Well #:		Point Description:	PLANT TAP
Collection Date:	8/6/2014 2:30:00 PM	Collector:	Public Water Supply Operator
Arrival Date:	8/6/2014 4:23:13 PM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.70	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	155	20	mg/L	SM 2340 C
7440-23-5	SODIUM	16	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	61	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4

93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00006	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	0.0003	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2
50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2

60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2
74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2

75-25-2	BROMOFORM	0.0018	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.015	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.045	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.024	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2
75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2

91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.086	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	0.5	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	0.001	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	23	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:15:37 EDT 2015

From: Wurfel, Sara (GOV)
Sent: Friday, October 02, 2015 11:53 AM
To: Pallone, Maggie (DEQ);Wyant, Dan (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ)
Subject: Fwd: Embargoed media conf. call - Flint water action plan

Answer is yes - but what was total number of traditional and charter public schools again?

Sent from my iPhone

Begin forwarded message:

> **From:** "Livengood, Chad" <CLivengood@detroitnews.com>
> **Date:** October 2, 2015 at 11:47:46 AM EDT
> **To:** "Wurfel, Sara (GOV)" <WurfelS@michigan.gov>, "Murray, David (GOV)" <MurrayD1@michigan.gov>
> **Cc:** "Lynch, James" <JLynch@detroitnews.com>
> **Subject: RE: Embargoed media conf. call - Flint water action plan**
>
> Sara or Dave,
>
> Quick follow-up question: In reference to the plan to immediately test water coming out of the faucets of all schools in Flint Community Schools, will the water at Flint's public charter schools be tested as well? I don't have an exact count, but I'm guessing there are a half-dozen or more charter schools in Flint.
>
> -Chad
>
> ------
> Chad Livengood
> Capitol Reporter
> The Detroit News
> Lansing bureau: (517) 371-3660
> Cell: PPI
> clivengood@detroitnews.com
> Twitter.com/ChadLivengood
>
> ---
>
> **From:** Wurfel, Sara (GOV) [mailto:WurfelS@michigan.gov]
> **Sent:** Friday, October 02, 2015 9:48 AM
> **To:** Lynch, James <JLynch@detroitnews.com>; Livengood, Chad <CLivengood@detroitnews.com>
> **Subject:** Embargoed media conf. call - Flint water action plan
> **Importance:** High
>
> Hi there Jim and Chad –
>
> Per earlier conversations, below is information for a media conference call with Gov. Snyder and Cabinet leaders – MI Dept of Environmental Quality Director Dan Wyant of the, MI Dept of Health & Human Services Director Nick Lyon of the, and Dr. Eden Wells, the state's Chief

Medical Executive – to outline a comprehensive action plan to further address Flint water concerns.

They will also be available to answer Qs.

As agreed by you and your team, this information is fully embargoed until when the 1:30 p.m. press conference later today in Flint begins.

SPECIFIC CALL-IN DETAILS:
Topic: Flint water action plan
Date: Friday, Oct. 2
Time: 11:15 a.m.
Conference Line call-in number: PPI
Conference line passcode: PPI
** To ask a question during that portion of the call, please press "0." (but please refrain from pressing zero until opening remarks are completed to help ensure you don't miss any of the details).

****NOTE**:** This invitation is for planning purposes only and meant for you and/or your outlet as there are a limited number of participant lines. Please let us know if you wish to have someone else participate so we can work to accommodate.

Please let us know if who from Detroit News plans to participate or if you need anything else at all in interim.

Thanks so much,
SW

Sara Wurfel, APR
Press Secretary | Executive Office of Governor Rick Snyder
wurfels@michigan.gov
517-335-6397, office
PPI mobile
Twitter:@SaraLW

From: Wurfel, Sara (GOV)
Sent: Friday, October 02, 2015 12:31 PM
To: Pallone, Maggie (DEQ);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ)
Subject: Fwd: Follow-up questions

Sent from my iPhone

Begin forwarded message:

> **From:** "Kaffer, Nancy" <nkaffer@freepress.com>
> **Date:** October 2, 2015 at 12:05:53 PM EDT
> **To:** "Wurfel, Sara (GOV)" <Wurfels@michigan.gov>
> **Subject: Follow-up questions**
>
> - Reviewing my notes, I'm not sure I got a definitive answer from Wyant about corrosion control at the Flint water treatment plant.
> Was corrosion control in use? I'd like a simple yes or no, here – if no, obviously, why not – if yes, what was it, and why was – if any – what sounds like a lesser degree of corrosion control being used? I would like the names of the specific technologies/chemicals that were in use in the past, if in fact corrosion control was being used at the Flint plant, and the specific technologies that will be used going forward.
> - Was the MDEQ unaware that there were aging lead service lines in Flint, and that those would increase the lead risk? Were the Flint water treatment folks? Why was this not taken into account in developing the water treatment count?
> - Wyant said that "two consecutive back to back tests" showed there was a problem; when were those tests performed and when were the results available?
>
> Obviously I would like to use this information in a piece we'll have ready to go at 1:30p so ASAP would be great.
>
> _____
> Nancy Kaffer
> Columnist
> Detroit Free Press
> www.freep.com/abettermichigan
> 313-222-6585
> @nancykaffer, @abettermi

From: Wyant, Dan (DEQ)
Sent: Tuesday, March 17, 2015 11:27 AM
To: Wurfel, Brad (DEQ)
Cc: Thelen, Mary Beth (DEQ);Agen, Jarrod (GOV)
Subject: Re: SDWA Violations

MBT- please forward this to Harvey on my behalf.

Dan Wyant

On Mar 17, 2015, at 11:18 AM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:

> Here's the other piece Harvey asked for.
> b
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > **From:** "Shekter Smith, Liane (DEQ)" <SHEKTERL@michigan.gov>
> > **Date:** March 17, 2015 at 11:07:33 AM EDT
> > **To:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
> > **Cc:** "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>, "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>, "Lachance, Amy (DEQ)" <LACHANCEA1@michigan.gov>, "Ostrander, Debbie (DEQ)" <OSTRANDERD@michigan.gov>, "Rosenthal, Adam (DEQ)" <ROSENTHALA@michigan.gov>
> > **Subject: FW: SDWA Violations**
> >
> > Brad –
> >
> > As requested, the following information has been gleaned from our database regarding violations:
> >
> > In calendar years 2013 and 2014, we've identified 1100 violations (200 are standards violations, i.e., MCLs; and 910 other violations).
> >
> > This represents 326 community water supplies that had violations over these two years.
> >
> > Flint has 5 violations in those 2 years (TTHM MCLs at 2 sites and 2 bacti MCLs (1 with E. coli that counts as an additional violation)).
> >
> > Please let us know if you know additional information.
> >
> > Liane

From:	Wurfel, Brad (DEQ)
Sent:	Monday, February 02, 2015 4:35 PM
To:	Wyant, Dan (DEQ);Datema, Maggie (DEQ);Tommasulo, Karen (DEQ);Thelen, Mary Beth (DEQ)
Cc:	Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ)
Subject:	Fwd: Flint event on Tuesday
Attachments:	2 FDCVT Grant Awards draft.docx; ATT00001.htm; Briefing Flint grant announcement.docx; ATT00002.htm; RELEASE Flint water grants.docx; ATT00003.htm

All,
Here is some early information about the event tomorrow in Flint. State leaders, including director Wyant, Will announce $2 million in distress community grants. Based on what little I know so far, it sounds a little bit like SAW grants.
Will share more details when I get them.
b
Sent from my iPhone

Begin forwarded message:

> **From:** "Murray, David (GOV)" <MurrayD1@michigan.gov>
> **Date:** February 2, 2015 at 1:34:21 PM EST
> **To:** "Agen, Jarrod (GOV)" <AgenJ@michigan.gov>, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov>, "Wurfel, Sara (GOV)" <WurfelS@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Biehl, Laura (GOV)" <BiehlL@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>, "Clayton, Stacie (GOV)" <claytons3@michigan.gov>, "Walsh, John (GOV)" <WalshJ@michigan.gov>, "Brownfield, Michael (GOV)" <BrownfieldM2@michigan.gov>, "Allard, Claire (GOV)" <allardc1@michigan.gov>, "Rexford, Tori (GOV)" <rexfordt@michigan.gov>
> **Subject: Flint event on Tuesday**
>
> Good afternoon team,
>
> Just wanted to touch base on Tuesday's event in Flint. Unless told otherwise, I'm continuing to prepare for the event.
>
> I touched base with Harvey and Stacie, who recommended we proceed. Harvey is approaching some stakeholders about appearing at the event, and will forward those names to me later today.
>
> I left a message with Dick Posthumus to see if he has any concerns about proceeding.
>
> The Senate Democrats said Sen. Ananich will want to appear. Katie Carey from the House said she would forward information to Rep. Neeley and Phelps. I have not heard back from her yet.
>
> I've attached the backgrounder and the draft releases from Governor's Communications and Treasury. I've sent a message to the mayor's office about a quote, but have not heard back yet.
>
> Brad and I spoke about Director Wyant's role and potential comments. He will point out that there are things the state can do to help monitor the situation, but also will note that the city's water infrastructure is aging, which contributes to the problems.

We need some direction on an advisory. Should this be listed on a typical advisory from the governor's office, or come from Treasury? Do we even issue an advisory in favor of just contacting media directly in the morning?

Please give the draft releases a read for potential changes, or let me know of other concerns.

Thank you!

Dave

Dave Murray
Deputy Press Secretary | Executive Office of Governor Rick Snyder
MurrayD1@michigan.gov
517-335-6397, office
PPI mobile
Twitter:@michigandmurray

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

RICK SNYDER
GOVERNOR

R. KEVIN CLINTON
STATE TREASURER

February 3, 2015

FOR IMMEDIATE RELEASE
www.michigan.gov/treasury

Contact: Terry Stanton, Treasury
(517) 335-2167
Dave Murray, Governor
(517) 335-6397

draft

Gov. Rick Snyder announces grants helping distressed municipalities with water, public safety, appraisal issues

$8 million awarded for projects aimed at improving services, quality of life

LANSING, Mich. -- Gov. Rick Snyder today awarded $8 million to six municipalities to fund various improvement projects, including water system and street lighting enhancements and technology upgrades through the Financially Distressed Cities, Villages, and Townships Grant Program.

Municipalities are eligible for the grants of they are experiencing one or more conditions indicative of "probable financial stress," as defined by Public Act 436 of 2012, the Local Financial Stability and Choice Act.

"Municipalities receiving this special funding are some of the areas hardest hit by the Great Recession," Snyder said. "I am pleased we can offer funding assistance to help these local governments improve various public services their taxpayers and residents expect and deserve."

Under the grant program, funding may be used to pay for specific projects, services, or strategies that move a city, village, or township toward financial stability. There was $8 million appropriated for the program with a $2 million cap, per local unit.

The following communities will receive funding this year, with projects and amounts noted (alphabetical order):

Local Unit	Project Description	Amount
City of Benton Harbor	Complete a property reappraisal to provide updated and accurate assessing records. Additionally, community enhancement through blight management and sidewalk replacement.	$475,000
City of Benton Harbor	Water system enhancement through water main replacements and fire hydrant repairs.	$434,960
City of Ecorse	Public safety enhancement through improved street lighting.	$350,000

City of Flint	Water system enhancement through improved waste management.	$1,100,000
City of Flint	Water system enhancement through leak detection and pipe assessments.	$900,000
City of Hamtramck	Complete a property reappraisal to provide updated and accurate assessing records.	$167,860
City of Hamtramck	Upgrade City Hall security.	$50,000
City of Hamtramck	Public safety enhancement through improved street lighting.	$404,600
City of Highland Park	Water system enhancement through meter replacement, leak detection, and system repairs.	$2,000,000
City of Inkster	Complete a property reappraisal to provide updated and accurate assessing records.	$73,460
City of Inkster	Water system enhancement through fire hydrant repairs.	$150,000
City of Inkster	Provide a backup power source for public safety.	$30,000
City of Inkster	Public safety enhancement through the creation of a multi-jurisdictional narcotic team.	$240,000
City of Inkster	Public safety enhancement through police officer training.	$41,970
City of Inkster	Public safety enhancement through the deployment of an additional police officer.	$320,000
City of Lincoln Park	Public safety enhancement through updated technology.	$143,490
City of Melvindale	Public safety enhancement through fleet replacement of police vehicles and updated technology.	$88,000
City of Pontiac	Community enhancement through blight management.	$125,000
City of River Rouge	Public safety enhancement through improved street lighting. Additionally, infrastructure replacements to City Hall.	$591,508
Royal Oak Township	Public safety enhancement through improved street lighting	$86,559
Royal Oak Township	Public safety enhancement of police services.	$217,593

Applications for the next round of Financially Distressed Cities, Villages, and Townships Grant Program will be available on the Department of Treasury website this spring. Applications must be submitted to Treasury by the close of business on XXX, XXX 31, 2015.

Preference is generally given to applicants from local units in which:

- A financial emergency has been declared in the past five years;
- An approved deficit elimination plan for the general fund is currently in place; or,
- Two or more conditions indicating "probable financial distress" currently exist.

For more information about FDCVT grants, including an application for cities, villages, and townships, visit www.michigan.gov/revenuesharing.

####

*Conditions of "probable financial distress" relating solely to school districts are not included as conditions for FDCVT, as school districts are not eligible.

Briefing: Grant announcement in Flint

Tuesday, Feb. 3, 2015, 3-4 p.m.
Haskell Community Center, 2201 Forest Hills Ave. Flint
Governor's communications: Dave Murray, murrayd1@michgian.gov, 517-449-8343
DEQ communications: Brad Wurfel, wurfelb@michigan.gov, 517-230-8006
Treasury communications: Terry Stanton, stantont@michigan.gov, 517-830-5807

Purpose

The state government is providing support for the Flint government as it addresses issues with its water system. The state on Tuesday is announcing that Flint is receiving two grants totaling $2 million related to water system improvements through the Financially Distressed Cities, Villages and Townships grant program. DEQ Director Dan Wyant will address ongoing efforts with his agency to test Flint water and explain why the city is facing some of its problems. Senate Minority Leader Jim Ananich, D-Flint, will discuss his appreciation for the ongoing support for the city and its residents.

Attending

- Harvey Hollins, director of the Michigan Office of Urban Initiatives
- Dan Wyant, director of the Michigan Department of Environmental Quality
- Wayne Workman, deputy treasurer, Michigan Department of Treasury
- Jerry Ambrose, Flint emergency manager
- Dayne Walling, Flint mayor
- State Sen. Jim Ananich
- State Rep. Sheldon Neeley
- State Rep. Phil Phelps

Agenda

3:00 PM – 3:05 PM:	Harvey Hollins announces that Flint has received two grants totaling $2 million.
3:05 PM – 3:10 PM:	Dan Wyant discusses the state's ongoing role in monitoring Flint's water and any assistance that has been provided and will continue to be provided.
3:10 PM – 3:15 PM:	Mayor Dayne Walling remarks about appreciation for state assistance.
3:15 PM – 3:20 PM:	Sen. Jim Ananich remarks about appreciation for state assistance.
3:20 PM – 3:25 PM:	Rep. Neeley remarks.
3:25 PM – 3:35 PM:	Harvey Hollins closing remarks, opens floor to media questions.
3:35 PM	Event ends, though this might be optimistic.

Background

- The quality of Flint water has been a high-profile concern in recent weeks, with residents complaining about the color, taste and smell of tap water since a switch to Flint River water as a temporary source as a pipeline is built to Lake Huron as a water source starting in 2016.
    - Residents have attended meetings with jugs of brownish water.
    - U.S. Kildee has worked with labor and community groups to distribute bottled water.
- Mayor Walling has issued a letter (included below) calling for state and federal assistance for the city, including forgiveness of some $20 million in debt through the Drinking Water Revolving Loan Fund and calling for the governor to come to Flint personally.
    - Walling also submitted a guest column to the Flint Journal with similar requests.

        - He said the loan forgiveness is needed for the city to upgrade its water treatment process.
    - Governor and Mayor Walling had a telephone conversation on Friday, and the mayor has pledged to work together on solutions.

- Rep. Sheldon Neeley also has sent the governor a letter, saying that his constituents "are on the verge of civil unrest."

- The Department of Environmental Quality has been monitoring the water situation, with a detailed backgrounder and talking points attached below.

- The Treasury Department is announcing Tuesday that Flint is among the cities receiving a combined $8 million the Financially Distressed Cities, Villages and Townships grant program.
    - The announcement of the other grants will follow the Flint announcement.
        - The Flint grants are $1.1 million to allow the city to replace the functions of the old incinerator with new water pollution control facility allowing for the disposal of waste to landfills.
        - The other is $900,000 to allow the city to hire a contractor to perform a leak detection survey, which will lead to prioritizing repairs.
    - A breakdown of the grants is included below.

Treasury breakdown of Flint grants

Flint Incinerator: The grant project entails shutting down the current Water Pollution Control Facility Incinerator (due to the incinerator not being up to new EPA standards). In order to meet EPA standards, it would cost roughly $8.8M in upgrades to the current incinerator. The grant funding will allow them to replace the functions of the old incinerator by constructing new facilities which will allow for the disposal of waste to landfills.

Budget Breakdown	
Construction Contractor	$1,050,000
Project Management	$50,000
Total	$1,100,000

Flint Leak Detection: The grant project will allow the city to hire a contractor to perform a leak detection survey of the city water lines. The city will receive a map of leak locations and an assessment of leak severity. This data will allow the city to prioritize leak repair. The project also covers the expense of conducting a water pipe line wall thickness condition assessment on a portion of the city's pipes. The assessment will guide the city's water main replacement program.

Budget Breakdown	
Project Planning	$90,000
Mobilization of Crew to Site	$27,000
Leak Detection < 16" diameter	$378,000
Leak Detection 16" diameter or >	$270,000
Pipe Condition Assessments	$135,000
Total	$900,000

DEQ backgrounder on Flint water

Following the formal approval of Flint into the KWA in 2012, DWSD sent Flint a letter saying their contract was thereby terminated (by early 2013).

Genesee County has been using DWSD water without a contract since May 2014. But Flint took the letter to imply a water cutoff, and promptly turned to DEQ with a proposal to use the Flint River (their historic backup system).

This proposed shift was pitched primarily as a money saver. But it put the city in the business of water production, where they historically had been in the business of water transmission. DEQ approved the use of the river as a source, based on the treatment plant's past performance as a standby facility and the improvements we outlined prior to a switchover.

Several municipalities around the state use surface water supplies (rivers): Blissfield near Monroe, Manistique, and Alma to name a few.

The city completed the upgrades at the water plant the facility and DEQ approved it April 2014.

There were some initial hiccups. Last summer, there were a couple of 'boil water' notices issued. One for a water test that showed e. coli, one for a break in the water main.

The challenge to using the Flint River as a source is that the condition of the water is variable and changes with season and weather. It has substantially more organic matter than deep lake sources like Lake Huron. This organic matter is mobilized by high water events, and warm weather also can account for more organic material in the water.

The treatment of the organic matter is done with chlorine. One might conclude that the continual answer is just to use more chlorine to achieve water safety. However, at some point on the continuum, the chlorine and organic matter create TTHM – total trihalomethanes – as a byproduct. When the standard for those is exceeded over several consecutive quarters of testing, the supply is required by law to issue public notice and submit an approved plan for addressing the situation.

You'll note that this regulatory approach means TTHM testing is done quarterly. That means people who use the system are exposed to TTHM for several months before the public notice is required. It's because TTHM is a chronic health threat. Over the long term (measured in decades), continued exposure can contribute to some known health problems. If this were an immediate health threat, customers would receive immediate notification to boil their water or not use it.

Put in context, the EPA (which established the standard and the rule) estimates the existence of the TTHM standard prevents an estimated 280 bladder cancer cases each year … out of more than 330 million people who use public water supplies around the country.

It's not "nothing." State and federal law requires quarterly testing for TTHM and that the public be informed of it when the annual average of four quarters' worth of consecutive testing shows TTHM levels exceeding 80 parts per billion. Flint's results managed to exceed the annual average in three quarters, and they must develop a plan to address it.

But it's not like an eminent threat to public health. Unlike an e. Coli or even total coliform bacteria maximum contaminant level, which require immediate public notification and response and are part of daily / hourly testing of public water supplies, TTHMs pose a public health concern with chronic, long-term exposure.

It's clear the nature of the threat was communicated poorly. It's also clear that folks in Flint are concerned about other aspects of their water – taste, smell and color being among the top complaints.

The Safe Drinking Water Act requires public water supplies be tested for more than 90 regulated contaminants, including microbial contaminants. The act, and the program here in Michigan, work to ensure that water is safe to drink. The act does not regulate aesthetic values of water. Here are some factors affecting the aesthetics of water in Flint.

1. It's the Flint River. The water supplied by DWSD historically came from Lake Huron. It's softer. With hard water, you get a different flavor and feel. It's why General Motors suspended use of Flint Water – it was rusting their parts. Also, there's the 'organics' factor (discussed previously).
2. The system is old. Flint has more than 500 miles of water pipes. More than half of those pipe miles are more than 75 years old. Much of it is cast iron. Hard water can react with cast iron and exacerbates the rusty factor, which creates that brown water that angry residents were holding up in jugs for the media cameras last week. Valve failure has also been a key challenge. The system has an estimated 7,500+ valves. When they stick open or stick shut, it affects the hydraulics of the system and increase areas of stagnation. The city has a backlog of valves that need to be addressed. They've done half a dozen or so since November.
3. Flint is old. Many of the homes served by the system are old. Brown water complaints may also be attributable to cast iron pipes in customers' service connection to the city lines. The DEQ has been encouraging people with water coloration concerns to contact the city and see whether it is the service line or the City's line causing the issue. Again, discoloration is not an indicator of water quality or water safety, but we recognize that nobody likes it.

In summary, the City of Flint has tremendous need to address its water delivery system. We are not aware that they have any capital improvement funds for preventative maintenance in place, much less line replacement project monies that will require hundreds of millions.

The City was approved for a Revolving Fund loan in 2008 or 2009. As a Distressed Community, they qualified for flexible terms and 2 percent interest rate Revolving Fund Loan. After they were notified they were approved for the loan, they declined it. Previous SRF loans from the state to Flint bear an outstanding balance of $20.7 million today.

The DEQ continues working with the city to address the TTHM issue. They can take interim steps – from scrubbing the insides of transmission lines to carefully monitoring the hydraulic challenges in their system – to address customers' aesthetic concerns. Their TTHM numbers already are showing dramatic improvement; the November testing showed only one of seven sample points exceeding the standard.

The key now is that the standard is an average of three quarters' worth of results. It will be some time before they are officially "not in violation." However, depending on weather in 2015, it's not unforeseeable that we will be having this conversation again by next Christmas.

The key to the conversation is that TTHM is not a top health concern. That's key because residents need to understand TTHM in context, and it is key because it appears the mayor has seized on the public panic (sparked, frankly, by their poor communication of the violation notice) to ask the state for loan forgiveness and more money for their infrastructure improvement.

Another key thing to remember is that once the city connects to the new KWA system in 2016, this issue will fade in the rearview.

Key messages:

1. The DEQ Drinking Water program works with communities around the state to ensure that municipalities provide customers with clean, safe drinking water.
2. Municipal water supplies are tested rigorously and regularly for more than 90 regulated contaminants, including microbial contaminants that pose an immediate public health concern.

3. Flint's exceedance of the TTHM standard should reassure residents that the testing program is effective.
4. TTHM is not an immediate health threat. It is a chronic concern, one that can be problematic over the course of several decades of exposure. The public was notified because the law requires the city to make public notification, so that everyone can make informed decisions. This is particularly true for people with infants or those with compromised immune systems.
5. The DEQ is working with the City to address the situation. Recent tests show the TTHM numbers dropping rapidly. The department will continue working with the city in the months ahead, and residents should feel confident that their water is safe to drink unless the DEQ or City notifies them otherwise.
6. The discoloration and odor issues some Flint residents are experiencing are separate issues from the TTHM issue. TTHM is odorless, colorless and measured in parts per billion.
7. Flint water customers who have questions or concerns about their water should first contact the city to get answers and help. They also can contact the Michigan DEQ.

Mayor Walling's Facebook post

Friend,

Access to clean, safe, affordable water is a basic human right.

That's why I just sent Gov. Snyder my Flint Water Improvement Plan. It focuses on the areas of safety, quality, access, investment and education. My letter urges the governor to quickly implement these ideas so that Flint's water is 100% safe.

Please contact Gov. Snyder by calling (517) 335-6397 (or by clicking here) and ask him to take action immediately to implement my plan and ensure Flint's water is safe.

My plan offers new ideas and also builds on successful models of utility, energy and assistance programs at the state and federal levels. Here is my plan:

Safety & Quality

- 100% Safety is the standard
- City of Flint releases testing data to assure safety and expands testing to households with support from the Michigan Department of Environmental Quality
- Support alternatives for those advised not to drink the water by their doctors through the Michigan Health Endowment Fund and community partners to protect the vulnerable like seniors and infants
- Bring on experienced river water treatment operational management in the City of Flint
- Require water testing data to be released quarterly by law in all Michigan communities

Access

- Announce an amnesty program for turn-ons and reduce the turn-on cost in Flint
- Develop a revised payment plan policy to allow customers to come back on to the Flint system
- New Federal and State partnership to establish new Drinking Water Emergency Assistance Fund for customers (modeled on Federal and State energy utility programs: Low Income Home Energy Assistance Program; Michigan Energy Assistance Program; State Emergency Relief)

Investment

- Accelerate water system improvements outlined in the City of Flint Capital Improvement Plan through Federal and State Investments
- State approves City of Flint's Distressed Cities Fund applications
- Federal and State forgiveness of payment to Drinking Water Revolving Loan Fund

- Federal and State financing for future improvements
- City Water Department implements budgeted FY15 projects including leak detection, valve repairs, new pipes and meter replacements

Education

- Develop a community partnership to provide household and business customers with information on testing and conservation
- Ongoing partnership with Michigan Department of Human Services, United Way, Salvation Army and community organizations to provide information on water assistance
- Expand youth energy initiative to assist households with conservation and efficiency (piloted in summer 2014 with Northwestern High School students, EcoWorks and Consumers Energy)

The struggle with our water has gone on for too long. The state must take action and do its part. Please ask Gov. Snyder to take action immediately to implement my plan and ensure Flint's water is safe. Thank you for your ongoing support.

Links to coverage

- Mayor, governor have 'long, productive' talk about Flint's water problems, Jan. 30
- 2,000 more gallons of water headed to Flint for giveaway, Jan. 30, 2015
- Flint emergency manager says there are two big reasons not to reconnect Detroit water, Jan. 29
- Flint Democracy Defense League plans four meetings on city's water problems, Jan. 29
- Environmentalist sends out new warnings about Flint water, NBC, Jan. 27
- Erin Brockovich says on Facebook she's prepared to come to Flint, MLive, Jan. 27
- Mott Community College not waiting for Flint to ensure safe water, MLive, Jan. 26
- Detroit water chief says she's willing to sell emergency water to Flint -- no strings attached, Jan. 26
- Mayor says governor needs to visit Flint to see water crisis first hand, MLive, Jan. 26
- Need water? Flint groups collect 600 cases, plan distribution this week, MLive, Jan. 26
- Incoming Flint water expert would have 'continual oversight' until new pipeline connected, Jan. 25
- Looking back at Flint's water problems (photo gallery), MLive, Jan. 25
- Flint water problems: Switch aimed to save $5 million -- but at what cost?, MLive, Jan. 23
- State says its already 'working diligently' on Flint's water problems, MLive, Jan. 22
- Officials say Flint water is getting better, but many residents unsatisfied, MLive, Jan. 21

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

RICK SNYDER
GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray, Governor's Office 517-335-6397 Terry Stanton, Department of Treasury 517-335-2167	<< AUTODATE >>

Gov. Rick Snyder awards Flint $2 million in Distressed Cities grants for water system infrastructure improvements

Funding to be used for leak detection, waste incinerator replacement

LANSING, Mich. – Gov. Rick Snyder today awarded Flint $2 million in grants for water system infrastructure improvements, part of an overall $8 million plan to help cities through the Financially Distressed Cities, Villages, and Townships Grant Program.

Flint is among six municipalities receiving grants through the program. The city will use the funding to detect leaks in its water lines and replace its Water Pollution Control Facility Incinerator.

"There are opportunities for the state government to assist Flint city leaders as they address issues related to the city's water system," Snyder said. "These grants will help recovering cities improve public services and infrastructure, improving the quality of life for all residents."

The grants to Flint were announced today at the Haskell Community Center by Harvey Hollins, director of the state's Office of Urban Initiatives and Wayne Workman, the state's deputy treasurer. They were joined by Dan Wyant, director of the Michigan Department of Environmental Quality, Flint Emergency Manager Jerry Ambrose, Mayor Dayne Walling, state Senate Minority Leader Jim Ananich, state Reps. Sheldon Neeley and Phil Phelps.

Flint was awarded $900,000 to allow the city to hire a contractor to perform a leak detection survey of the city water lines. The city will receive a map of leak locations and an assessment of leak severity, allowing the city to prioritize leak repair. The project also covers the expense of conducting a water pipe line wall thickness condition assessment on a portion of the city's pipes. The assessment will guide the city's water main replacement program.

The city also was awarded $1.1 million to shut down its current Water Pollution Control Facility incinerator and replace it with new facilities which will allow for the disposal of waste in landfills. The existing facilities are not up to federal Environmental Protection Agency standards.

Municipalities are eligible for the grants of they are experiencing one or more conditions indicative of “probable financial stress,” as defined by Public Act 436 of 2012, the Local Financial Stability and Choice Act.

Under the grant program, funding may be used to pay for specific projects, services, or strategies that move a city, village, or township toward financial stability. There was $8 million appropriated for the program with a $2 million cap, per local unit.

##

From: Wurfel, Brad (DEQ)
Sent: Tuesday, February 03, 2015 11:19 AM
To: Datema, Maggie (DEQ);Wyant, Dan (WyantD@michigan.gov)
Cc: Busch, Stephen (DEQ)
Subject: FW: FDCVT - Preliminary Press Release Info
Attachments: Flint (Incinerator)_Redacted.pdf

-----Original Message-----
From: Cole, Evah (Treasury)
Sent: Tuesday, February 03, 2015 9:56 AM
To: Stanton, Terry A. (Treasury)
Cc: Connors, Paul (Treasury); Wurfel, Brad (DEQ); Kolka, Carolyn (Treasury)
Subject: RE: FDCVT - Preliminary Press Release Info

Terry,

Below is additional information regarding the Flint Incinerator also attached is the Incinerator application. Let us know if you need additional information. Thank you.

Flint Incinerator

The grant project entails shutting down the current Water Pollution Control Facility Incinerator (due to the incinerator not being up to new EPA standards). In order to meet EPA standards, it would cost roughly $8.8M in upgrades to the current incinerator. The grant funding will allow them to replace the functions of the old incinerator by constructing new facilities which will allow for the disposal of waste to landfills.

Budget Breakdown	
Construction Contractor	$1,050,000
Project Management	$50,000
Total	$1,100,000

-----Original Message-----
From: Stanton, Terry A. (Treasury)
Sent: Monday, February 02, 2015 4:54 PM
To: Cole, Evah (Treasury)
Cc: Connors, Paul (Treasury); Wurfel, Brad (DEQ)
Subject: Re: FDCVT - Preliminary Press Release Info

Dick now says he talked to Sheldon and he is all set for now. No meeting needed.

He did ask "how the $1.1m for the incinerator" can be used?

Please advise

From: Cole, Evah (Treasury)
Sent: Monday, February 2, 2015 4:03 PM
To: Stanton, Terry A. (Treasury)
Subject: RE: FDCVT - Preliminary Press Release Info

Ok Thanks for the info

From: Stanton, Terry A. (Treasury)
Sent: Monday, February 2, 2015 8:51 AM
To: Cole, Evah (Treasury)
Subject: Fw: FDCVT - Preliminary Press Release Info

Evah...

I may need you to attend a meeting with Dick Posthumus, Paul Connors and me...with Rep. Sheldon Neely from Flint sometime tomorrow.

Dick P is apparently working to schedule it. I will keep you posted as I can.

Thanks, Terry

From: Posthumus, Dick (GOV)
Sent: Monday, February 2, 2015 9:42 AM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

I will see about scheduling it tomorrow morning and get back with you

Sent from my iPhone

On Feb 2, 2015, at 9:40 AM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:

Dick...

Will the meeting with Rep Neely will be rescheduled? If so, I will need to pass word along to Brad at DEQ and my staff.

Thanks, Terry

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 4:06 PM
To: Stanton, Terry A. (Treasury)

Subject: Re: FDCVT - Preliminary Press Release Info

We should. Would you call him?

Sent from my iPhone

On Jan 30, 2015, at 4:02 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:

Do you want someone from DEQ also (Brad Wurfel?), given their relationship with the city on the water quality?

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 3:38 PM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

That and technical issues about the water

Sent from my iPhone

On Jan 30, 2015, at 3:32 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:
Will do. Safe to assume their questions revolve around the FDCVT grants?

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 3:16 PM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

I'll call him and get him there too. ThNks

Sent from my iPhone

On Jan 30, 2015, at 3:12 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:
I'd be happy to Dick, but would suggest that Paul Connors and someone from our Office of Revenue and Tax Analysis, who is very familiar with the grant process, etc. come over as well.

Terry

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 2:43 PM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

Terry
Are you available to meet with me and the two Representatives from Flint at 11 on Friday in Rep Sheldon"a office Dick

Sent from my iPhone

On Jan 30, 2015, at 1:46 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:

TS

Begin forwarded message:
From: "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>>
Date: January 30, 2015 at 1:37:53 PM EST
To: "Murray, David (GOV)" <MurrayD1@michigan.gov<mailto:MurrayD1@michigan.gov>>, "Muchmore, Dennis (GOV)" <muchmored@michigan.gov<mailto:muchmored@michigan.gov>>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov<mailto:hollinsh@michigan.gov>>, "Clement, Elizabeth (GOV)" <clemente@michigan.gov<mailto:clemente@michigan.gov>>, "Wurfel, Sara (GOV)" <Wurfels@michigan.gov<mailto:Wurfels@michigan.gov>>
Subject: Fwd: FDCVT - Preliminary Press Release Info Here is the prelim grant spreadsheet.

TS

Begin forwarded message:
From: "Stibitz, Brom (Treasury)" <StibitzB@michigan.gov<mailto:StibitzB@michigan.gov>>
Date: January 30, 2015 at 10:22:36 AM EST
To: "Gelisse, Ashley (TREASURY)" <GelisseA@michigan.gov<mailto:GelisseA@michigan.gov>>
Cc: "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>>
Subject: FW: FDCVT - Preliminary Press Release Info Do we have any exposure here on grants we have turned down? IE do we have good reasons for the denials?

From: Cole, Evah (Treasury)
Sent: Friday, January 30, 2015 9:24 AM
To: Stibitz, Brom (Treasury); Koryzno, Edward (Treasury)
Cc: Kolka, Carolyn (Treasury)
Subject: FW: FDCVT - Preliminary Press Release Info

Brom & Ed,

Attached for your information is the listing of FDCVT grant awardees. We will be announcing the grants on Monday.

Any questions, let us know.

Thank you.

Evah
3-2864

From: Kolka, Carolyn (Treasury)
Sent: Thursday, January 29, 2015 4:58 PM
To: Allard, Claire (GOV); Stanton, Terry A. (Treasury)
Cc: Cole, Evah (Treasury)
Subject: RE: FDCVT - Preliminary Press Release Info

We have tweaked the descriptions and one funding item.

Carrie

From: Kolka, Carolyn (Treasury)
Sent: Thursday, January 29, 2015 4:37 PM
To: Allard, Claire (GOV); Stanton, Terry A. (Treasury)
Cc: Cole, Evah (Treasury)
Subject: FDCVT - Preliminary Press Release Info

Claire & Terry,

Attached is the preliminary press release for the Financially Distressed Cities, Villages, and Townships (FDCVT) Grant Program. The listing is sorted alphabetically by local unit.

We are awarding the full $8.0 million that was appropriated.

The tentative plan is to make an announcement on Monday, February 2.

Please let us know if you have any questions or concerns.

Carrie
241-7417
<FDCVT FY 15 - Preliminary Press Release Info 01 29 15.xlsx>

This Document is a Non-Responsive Attachment.

From: Wurfel, Brad (DEQ)
Sent: Tuesday, February 03, 2015 10:12 PM
To: Wyant, Dan (DEQ);Datema, Maggie (DEQ);Feuerstein, Heather (DEQ);Tommasulo, Karen (DEQ)
Subject: Fwd: Thank you very much for your help.

Story links below.

Sent from my iPhone

Begin forwarded message:

> **From:** "Murray, David (GOV)" <MurrayD1@michigan.gov>
> **Date:** February 3, 2015 at 9:55:05 PM EST
> **To:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>, "Clayton, Stacie (GOV)" <claytons3@michigan.gov>, "Brownfield, Michael (GOV)" <BrownfieldM2@michigan.gov>, "Allard, Claire (GOV)" <allardc1@michigan.gov>, "Posthumus, Dick (GOV)" <Posthumusd@michigan.gov>, "Workman, Wayne (TREASURY)" <WorkmanW@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Walsh, John (GOV)" <WalshJ@michigan.gov>, "Clement, Elizabeth (GOV)" <clemente@michigan.gov>, "Muchmore, Dennis (GOV)" <muchmored@michigan.gov>
> **Cc:** "Wurfel, Sara (GOV)" <Wurfels@michigan.gov>, "Agen, Jarrod (GOV)" <AgenJ@michigan.gov>, "Biehl, Laura (GOV)" <BiehlL@michigan.gov>, "Paciorek, Josh (GOV)" <Paciorekj@michigan.gov>, "Brown, Jessica (GOV)" <BrownJ53@michigan.gov>, "Rexford, Tori (GOV)" <rexfordt@michigan.gov>
> **Subject: Thank you very much for your help.**
>
> I just wanted to say thank you to everyone who took part in Tuesday's grant announcement press conference in Flint.
>
> I know that very, very busy people tore up their schedules to appear, or spent a great deal of time with me providing technical assistance and mentoring to bring everything together – even during the weekend and on a snow day. Your help is deeply appreciated!
>
> I think the coverage looks good so far, giving us a chance to change the narrative and explain the state's proper role helping the city with this long-standing issue. Here are some of the early stories:
>
> Governor awards Flint $2 million for troubled water system; Mayor says more is needed, MLive
> $2 million in grant money coming to Flint to help with water situation, WJRT-12
> Snyder grants $2 million to Flint for troubled water system, Toldeo Blade (AP story)
>
> Thank you again,
>
> Dave

Dave Murray
Deputy Press Secretary | Executive Office of Governor Rick Snyder
MurrayD1@michigan.gov
517-335-6397, office

PPI mobile
Twitter:@michigandmurray

From: Wurfel, Brad (DEQ)
Sent: Thursday, March 12, 2015 9:25 PM
To: Wyant, Dan (DEQ)
Subject: Fwd: FYI in MIRS

This just in ...

Sent from my iPhone

Begin forwarded message:

> **From:** "Holton, Jennifer (MDA)" <holtonj@michigan.gov>
> **Date:** March 12, 2015 at 9:21:52 PM EDT
> **To:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
> **Subject: FYI in MIRS**
>
> *Detroit Preachers To Call For Snyder's Intervention In Water Crisis*
>
> The Change Agent Consortium and Preachers of Detroit will collect bottled water for Flint residents at 7 p.m. Friday in Detroit and plan to call for action from of Gov. Rick **SNYDER.**
>
> David Alexander **BULLOCK**, the Change Agent Consortium national spokesperson, said in a statement that the situation in Flint demands immediate state action.
>
> "We call on Governor Snyder to declare a state of emergency in Flint. He should ensure all citizens have access to clean water, institute a moratorium on water bills until the water source is safe and reverse the bad public policy decision of the emergency manager to use a contaminated water source in Flint," Bullock said in the statement.
>
> The Friday water collection event will take place at Tony V's Tavern, 5756 Cass Ave., in Detroit.
>
> Sent from my iPhone

From: Wurfel, Brad (DEQ)
Sent: Friday, March 13, 2015 6:11 PM
To: Hollins, Harvey (GOV)
Cc: Wyant, Dan (WyantD@michigan.gov)
Subject: Info download per our conversation
Attachments: Launch_and_Retrieval_Methods.pdf; OTsp07_TB.pdf; PotableWaterSeweragePipeLines.pdf; PPP_General_Brochure.pdf; USG Advanced Pipe Cleaning (Ice Pigging).pdf; 0707_036.pdf; 150207_155445_COLLAGE-1.jpg

Importance: High

Harvey,
We've got two issues I wanted to update you on. After trying to do this all in a single email, I realized it gets messy. So this is the first of two.

The water quality question remains under consideration. I've had a couple meetings this week with our drinking water team. I will circle back and push them for a specific recommendation on a good retail filter. Thus far, they've presented a range of options and been uncomfortable going past that because a) we don't specialize in home filtration. We're in charge of commercial / municipal size systems. And b) most filtration systems remove contaminants and toxics and organics. There's no way to know for sure if a faucet model will effectively work on odor or color issues until someone installs it and tries it out. For that, we'd need a home that has reported discolored / smelly water. And for that, I'd imagine we'd need to connect with the city and see if they've got logs of residents who have made these complaints.

The other potential help that could come from the state -- and after conversations with our folks I maintain it might be the best help we can give them -- has to do with maintenance. Of the $2 million announced in January from Treasury, $900,000 was earmarked for developing a maintenance triage plan. As that comes together, the next step will be actual maintenance. This means replacing valves and rotten sections of pipe, but it also means "pigging" lines with an inline device that runs through water transmission lines and forces out any built-up… material. In coordination with bleeding stagnant water via hydrants, this would probably be the fastest, most effective way to address the discolored / odorific water.

Our department specialists working with Flint imparted in an internal meeting this morning that the city has been a little reticent to pig their lines because the system is in such a condition that they worry a valve opened won't close (and vice versa), and a line that is barely still functional might get blown by the pigging. Our position is that would be preferable – maintenance, after all, is about addressing those very situations. But if funding can be identified, through SOM or some foundation benefactor, and we can convince the city to tackle the work, this would be a great way to spend it. The PDF files enclosed offer some more information about what this is, how it works, etc.

I'm still working to get a report of all the local municipal violations over the past two years. The two staff in the drinking water division who run those database searches are out of state this week, in Florida and Alaska respectively. Division assures me they'll get that report run as a priority upon return of those folks next week. In the meantime, here are some images (the Jpeg titled COLLAGE). It shows various conditions, mostly at mobile home parks around the state, where the water system

has failed. May or may not be of use, but if nothing else it exemplifies that this stuff happens, much as we try to make sure it does not.

This is email one of two. The other issue I will present in the next email. If it is at all possible, I'd suggest we need to assemble Treasury, MDCH, DEQ and Ambrose + RS team sometime Monday to get everyone briefed on what each agency is doing in Flint right now and what we may need to do next. Don't know if that meeting gets called by you or Dennis, but I think you and I agree that we need a united, coordinated team approach to develop quickly.

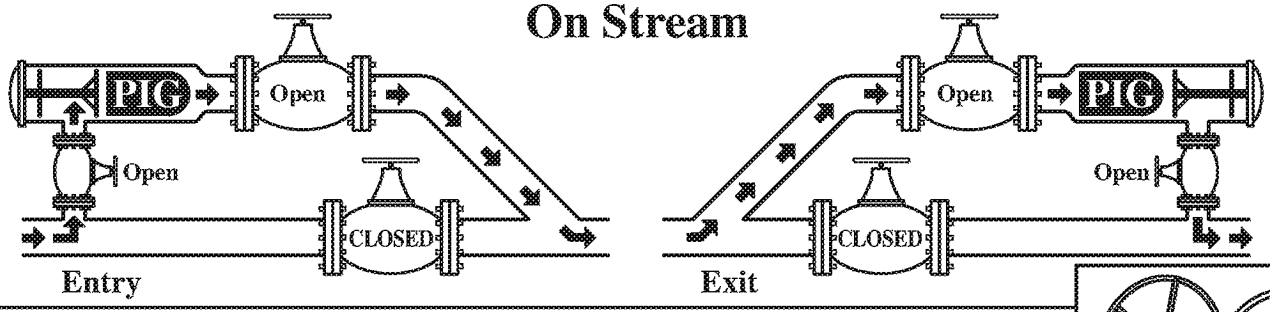
Thanks,
b

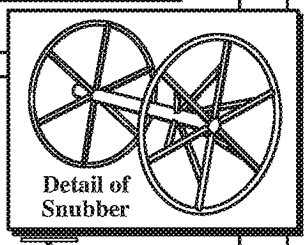
Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

Pipeline Pigging Products Inc.

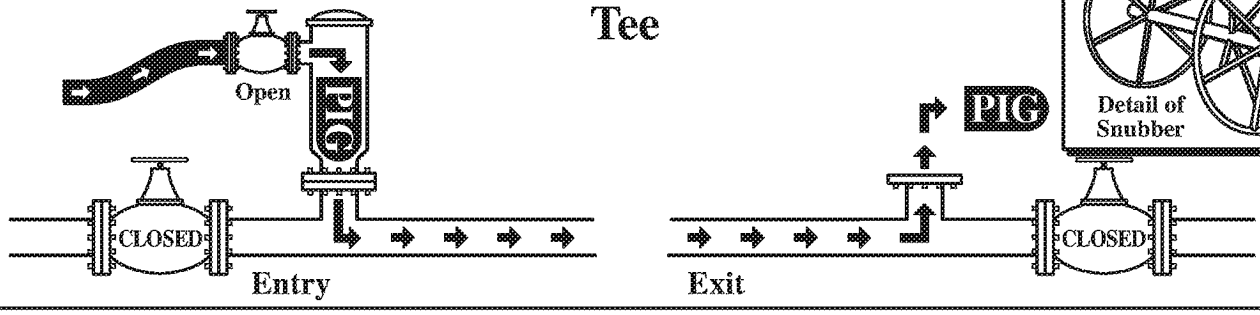
LAUNCH & RETRIEVAL METHODS

On Stream

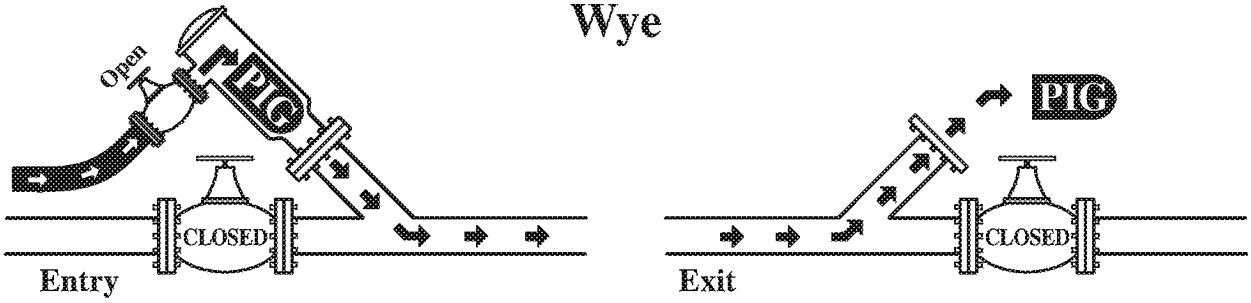




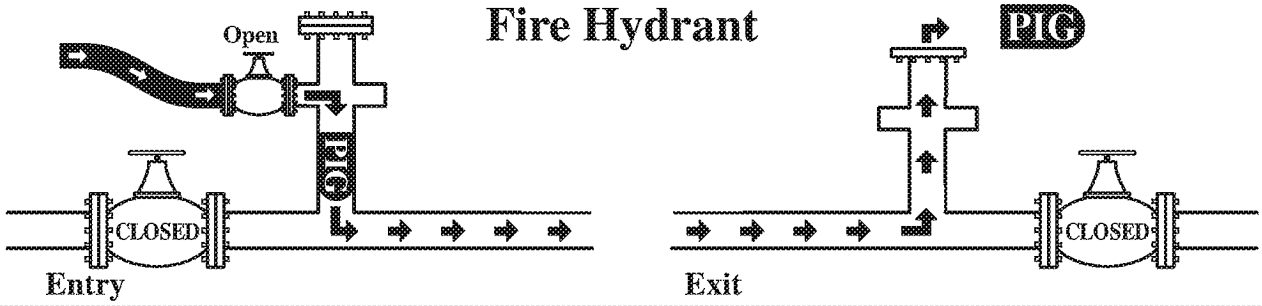
Tee



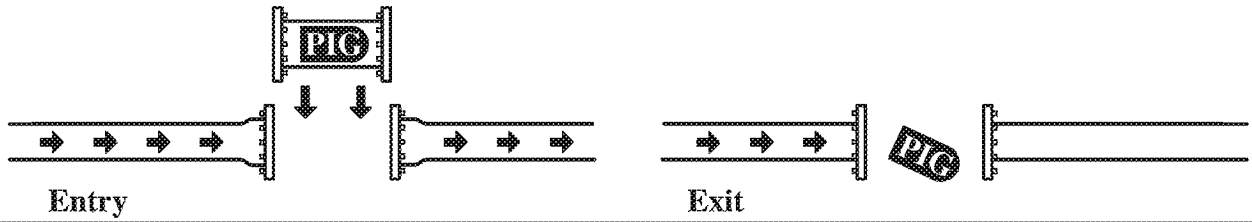
Wye



Fire Hydrant



Oversized Spool Piece

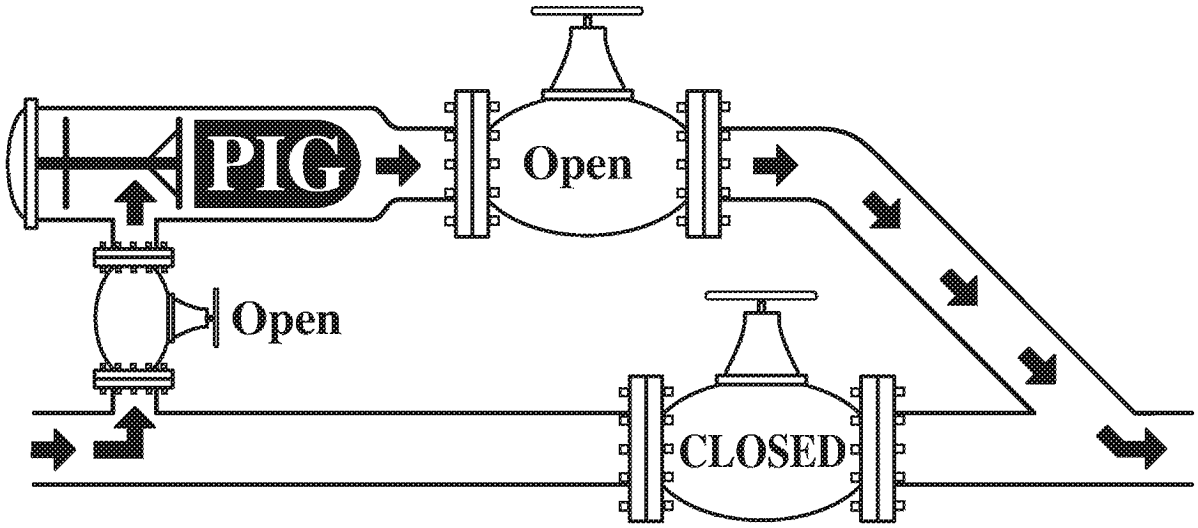


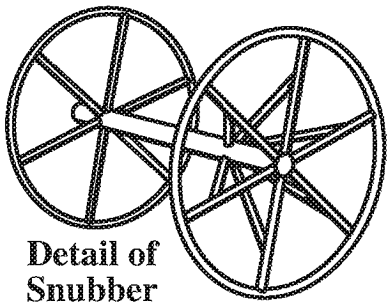
Pipeline Pigging Products Inc. • P.O. Box 692005 • Houston, Texas 77269 • 281/351-6688

Pipeline Pigging Products Inc.

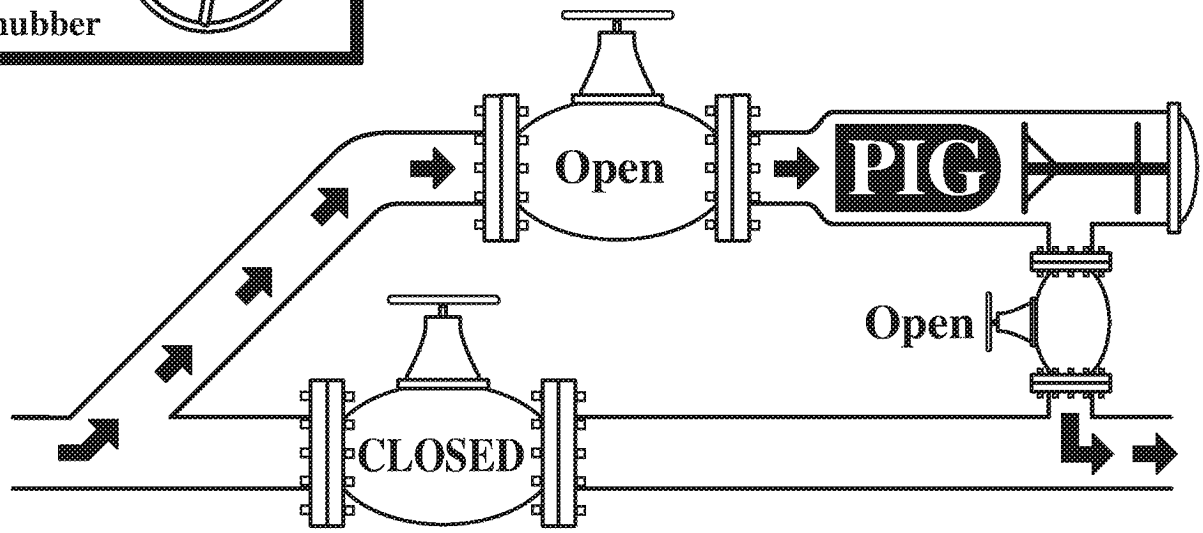
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On Stream Entry





On Stream Exit



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Tech Brief

PUBLISHED BY THE NATIONAL ENVIRONMENTAL SERVICES CENTER

Line Pigging

By **Zane Satterfield**, **P. E.**, NESC Engineering Scientist

Summary

Line pigging is an internal pipe-cleaning process used to remove biofilms or other foreign matter from the inside of water pipes. If performed correctly, line pigging will renew the flow rates to restricted piping systems and reduce pumping pressures. This Tech Brief discusses some of the techniques and processes used in cleaning waterlines in distributions systems.

Line Pigging

Line pigging (or line swabbing, as it sometimes known), is the process of cleaning distribution lines by inserting a small device known as a pig into the lines and pushing it through them. The term "pigging" originated in the gas and oil industry, where metal discs connected by a rod were moved through the oil pipelines to remove buildup of paraffin wax on the internal wall of the pipe. The action of metal on metal made a squealing noise like a pig and the name stuck. More and more, pigs are being used to clean pipelines in all types of industry including waterlines in municipal distribution systems.

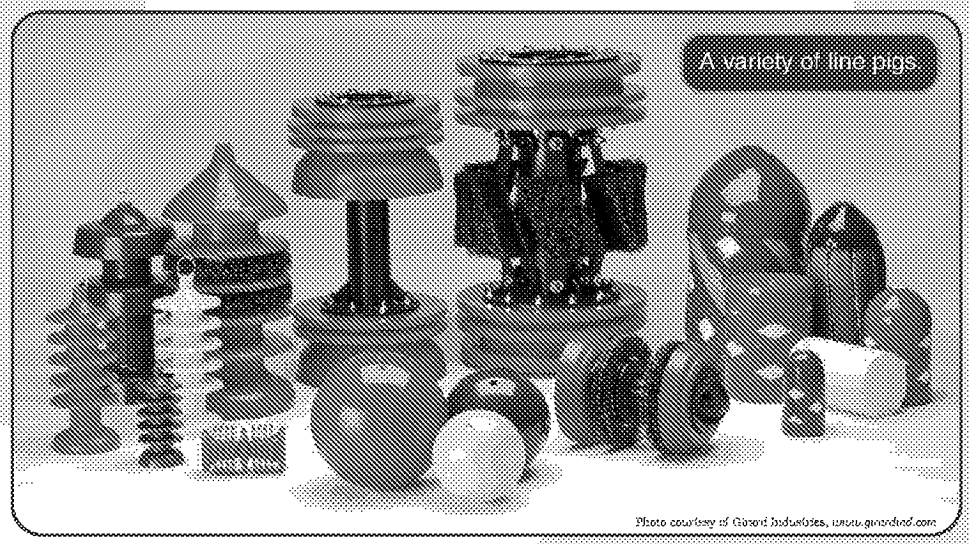
What is a pig?

A pig is the object, usually bullet shaped, that is pushed by the water in the pipe in the direction of normal flow. The pig can be made of different materials (foam, steel, plastic, polyurethane), but generally is food-grade silicon, which is tough yet flexible and safe to be in contact with drinking water.

Pigs range in size from 2- to 48-inches in diameter and can be made to order in varying lengths, styles, and configurations for specific applications. Not only are pigs used for cleaning but also for inspecting the inside of pipelines and determining interior dimensions.

Is pigging waterlines really necessary?

States and municipalities typically do not require regular pigging or swabbing of distribution lines in water systems. Some may only require pigging after initial construction of a new line to remove any debris left in the line because flushing alone will not always clean the dirt and debris out of the line.



A variety of line pigs

Photo courtesy of Girard Industries, www.girardind.com

Download all of our **Tech Briefs** at
www.nesc.wvu.edu/ndwc/ndwc_tb_available.htm



A photo of a 4 x 4 that was pushed out of an 8" water line. It took several pigs to finally get it out, and it came out in pieces, but they finally pigged it out.

One reason to pig a waterline is that all distribution lines tend to have a biofilm coating the inside of the pipe. The bacteria are dormant until certain conditions activate the bacteria, causing problems. Regular flushing will not eliminate this biofilm. Regular pigging with flushing will reduce or eliminate biofilms.

A second reason to pig a line is inadequate water flow. More flow (volume) of water may be needed to support development or a growing population in the water system or to provide adequate water for fire fighting. In areas of water systems where increased development has caused water demand to surpass the flow output of an existing line, the system will usually need to replace the existing waterline with a line that can support the demand needed. If the existing flow is restricted due to excessive deposits, however, pigging may be the solution to the problem.

Third, most states require a minimum of a 6-inch diameter waterline when connecting a fire hydrant to provide adequate flow. After years of service, the inside of the pipe can become restricted with deposits making the fire hydrant less effective if not useless for its intended job. If fire flow is needed, the solution in the past has been to replace the whole waterline, which is very costly and time consuming. Pigging may restore adequate flow for fighting fires at a fraction of the time and cost.

Finally, pigging waterlines may lessen complaints from water customers regarding the very same deposits that have or can restricted fire flow. These deposits are unwanted foreign matter such as iron oxide (red water), alum, calcium carbonates, barium sulfide and sediment. Pigging, in most cases, provides a solution. Cleaning these deposits can also reduce pumping pressures in areas of water systems that have booster pump stations. Increased pumping pressures can result in line leaks and pipe failures.

Procedure

The procedure starts by determining if the waterline can be pigged. Not every water line is a candidate for line pigging. Is the water line so corroded that pigging can cause failure?

Does the waterline have reducers (i.e., the line getting smaller) that can cause the pig to get stuck? Does the line have increased pipe diameter sizes where the water pressure would be insufficient to move the pig?

One of the main things to look at is the condition of the interior of the pipe. If the pH of the water is low, the interior of the line could be so corroded that pigging could result in failure. If in doubt about the condition of the line, refer to past line repairs or talk to operators who have worked on any repairs of the particular line.

Much of this information can be obtained from as-built drawings or operators who have fixed leaks or installed the original water line. The line will have to be dug up to launch the pig. At that time, a visual inspection should be done to determine if pigging is possible. Another option is to use a low density foam pig in any unknown line and examine the foam pig for wear patterns, tears, or gouges. This may even help determine if the line can be successfully cleaned with a pig.

Before the pigging begins, it's useful to have information about the line:

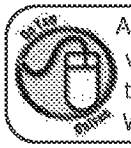
1. Locate and mark all valves and meters.
2. Approximate all elbows and fittings in the line (again, refer to the as-built drawing if available).
3. Know the pressure and flows in the lines. This will also help determine if any flow increase and possibly pressure decrease was achieved by the pigging.

The more you know before you start, the fewer surprises you'll encounter once you start pigging.

Once the line has been inspected and appears suitable, the actual pigging begins. A pig is inserted into the line to be cleaned by means of a launcher. This is simply an oversized barrel with a reducer mating to the existing line. This allows for easy insertion of the pig, because the pig's outer diameter is larger than the pipe's internal diameter to maintain a good seal. Once in the launcher, clean water is introduced to send the pig on its way. This is usually the same water that is in the line from a nearby flushing hydrant or fire hydrant, or a tanker truck. The pig's path is determined by direction of flow and by isolating the line to be cleaned by closing valves to laterals, if present.

If the waterline is in service, you must notify your customers about the water interruption and possible dirty water after bringing the line back in service. If the water line has a lot of unwanted deposits, it may be wise to pull all water meters just before the pigging process starts and flush at the connection at the end of the process before you replace the meters. Foreign matter could stop-up the meter or cause the meter to malfunction. The debris could also get into the customers' plumbing and cause problems such as plugging the aerators on the faucets, dishwashers, or washing machines.

If the waterline to be pigged has severe scaling (tuberculation) due to iron oxide (red water), alum, calcium carbonates, barium sulfide, or sediment, a progressive or stepped approach must be taken to avoid getting a pig stuck or losing a pig. This approach is simply using a smaller diameter pig at first and working your way up incrementally to the inside diameter of the pipe. The stepped technique will minimize the risk of the pig getting stuck or large amounts of debris plugging the line by cleaning a little bit at a time.



Articles about locating distribution lines and valve exercising programs are available on the National Environmental Services Center Web site at *www.nesc.wvu.edu/ndwc*.

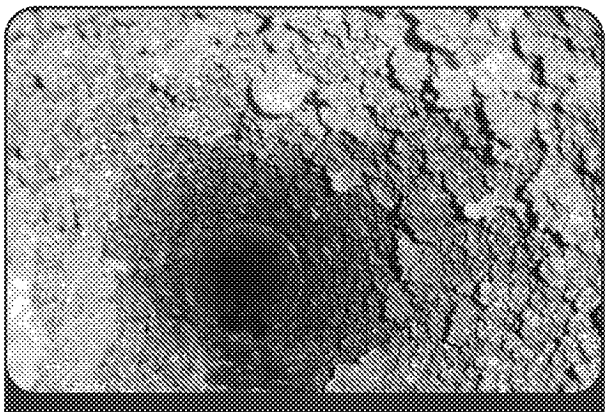
Smart Pigs

There are many different types and sizes of pigs. For waterline use, some nonstandard pigs include:

- Gauging pigs are mainly used after constructing the pipeline or before pigging an old line to determine if there are any obstructions in the pipeline.
- Profile pigs are gauging pigs with multiple gauging plates used to help map the inside condition of the pipe walls.
- Magnetic cleaning pigs are used to pick up ferrous debris left in the pipeline.
- Transmitter pigs or detector pigs are used to map out the location of pipeline or help locate a stuck pig.
- Spheres are round for ease in negotiating short radius 90-degree elbows, irregular turns, bends, and sweeps.

Dealing with a Stuck or Lost Pig

If a pipeline has not been pigged on a routine basis or has never been pigged, a pig can get stuck. If a pig becomes stuck, the first priority



A pipeline prior to line pigging.

is to find and retrieve it, but you must identify the cause. Usually one of two conditions exists when a pig is stuck: fluid bypassing around the pig (not pushing the pig) or a blockage of the flow.

In water distribution systems that have loops and multiple tee connections a pig can find its way out of the work area and get lost. It is important to locate all valves and close off the lines that are not being pigged and know the direction of water flow.

If you lose a pig, a smart pig such as a detector pig or transmitter pig can be launched to help find the lost pig. A transmitter can also be installed in the cleaning pig so that a second pig does not have to be launched to help locate it if it should get lost or stuck. Sometimes a pig gets stuck because of a broken or shut gate valve.

Procedures for dealing with a stuck pig or fluid going around the pig:

1. Increase the line pressure and flow rate, but do not exceed the safe limits of the pipeline allowing for age and/or condition of the line. The flow rate and pressure can be increased with a pumper and tanker fire truck.
2. Release pressure from the line and drain the line back toward the launcher. Releasing pressure allows the pig to relax to its normal shape and may even cause the pig to back up in the line. After pressure has dissipated completely for several minutes, re-pressurize the line in an attempted to drive the pig through the restriction. This may be repeated two or three times.
3. For a bypass situation, run a soft swab in behind the stuck pig to try and create a positive seal, stopping the bypass. Repeat step one above.
4. Back the pig up by applying pressure from the opposite end of the waterline using a pump or possibly a pumper fire truck.
5. If a foam pig is used and gets stuck a super-chlorinate mixture (3,000 to 5,000 ppm) in a slug form can be used to dissolve the pig. The line must be flushed and tested to be sure the chlorine residual is allowable limits after the super chlorination.

Water systems are advised not to undertake line pigging on their own. Shop around and find a reputable company with experience in line pigging with water lines. Start with an area of the water system that the line location, size, type, and condition are all known and the lines can be dug up easily if needed.

References:

Chem Tech Services. 2007. Various Information. Accessed at *www.chemtechservices.com/pigging.htm.*

Girard Industries. 2007. Technical Information on Pipeline Pigging. Accessed at *www.girardind.com/articles/art-of-pigging.htm.*

Hygienic Pigging Systems. 2007. Various Information. Accessed at *http://hpspigging.com/services.html.*

Kershaw, Richard. Date unknown. "Innovative Pigging Solutions For Pipelines." Tech Notes: A Pipeline & Gas Journal Fact Sheet. Chesterfield, UK: Pigtek Ltd.

Pigs Unlimited. 2007. Various Information. Accessed at *www.pigsunlimited.com/asp/about.asp.*

Rader, Larry. 2003. "On The Trail of the Elusive Water Leak." On Tap (Summer). Morgantown, WV: National Drinking Water Clearinghouse.

U. S. Environmental Protection Agency. 1999. *Microbial and Disinfection Byproducts Rules Simultaneous Compliance Guidance Manual.* Washington, D.C.

Special thanks to Jim Burns of Girard Industries for his assistance.



NESC Engineering Scientist **Zane Satterfield** is a licensed professional engineer and previously worked for the West Virginia Bureau of Public Health, Environmental Engineering Division.

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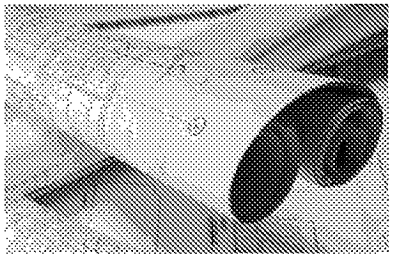
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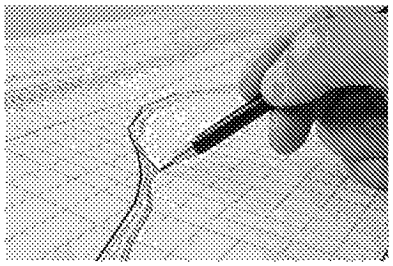
TECHNICAL SPECIFICATIONS FOR THE INTERNAL CLEANING OF POTABLE WATER AND SEWAGE PIPE LINES

EXECUTION:

•Pipeline shall be cleaned to remove most dirt, sludge, tuberculation and other foreign matter buildup from the interior wall of the pipeline. Equipment selected shall be capable of performing such cleaning. Satisfactory precautions shall be taken to prevent scratching or scraping of interior wall surfaces or other damage to pipes that might be inflicted by the improper use of cleaning equipment.

PIGGING:

•Prior to the use of plastic foam type pigs, a swab made of soft plastic foam shall be sent through the piping to insure that the piping systems fittings, valves and interior dimensions will allow the initial cleaning pig to pass through it without being trapped within the system. Upon examination of this initial swab, subsequent pigs of varying diameters and/or densities shall be sent through the piping system until desired results are readied.

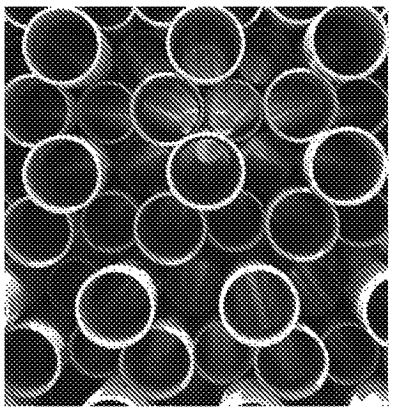


PIGS:

•Pigs shall be manufactured of an open cell polyurethane foam body. Densities may range between 1 1/2# per cubic loot up to 8# per cubic foot density. Some pigs may be wrapped with polyurethane spiral bands, as well as abrasives for longer life or removal of harder scale. Pigs should be able to pass through reduction of up to 60% to 65% of cross sectional area of nominal pipe. Pigs shall be able to traverse standard piping configurations such as 90° elbows, tees, crosses, wyes, gate valves, and ball valves.

CONTRACTOR REQUIREMENTS:

•Contractor shall submit evidence of qualifications to include a list of ten (10) projects of equal or greater scope. Project list shall state the following: dates, feet of pipe, project cost, location, contact person, telephone number. Qualification submittal shall include three (3) letters on client letterhead from stated contact person from the above list of ten (10) projects. All projects must have been completed within the last three years. All contractors must submit valid certification of training issued by an established pig manufacturer:



Pipeline Pigging Products

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PIPELINE PIGGING PRODUCTS INDUSTRY EXPERIENCE, RESEARCH, KNOW HOW



Pipeline Pigging Products is a manufacturer of internal pipeline cleaners referred to in the trade as "Poly Pigs."

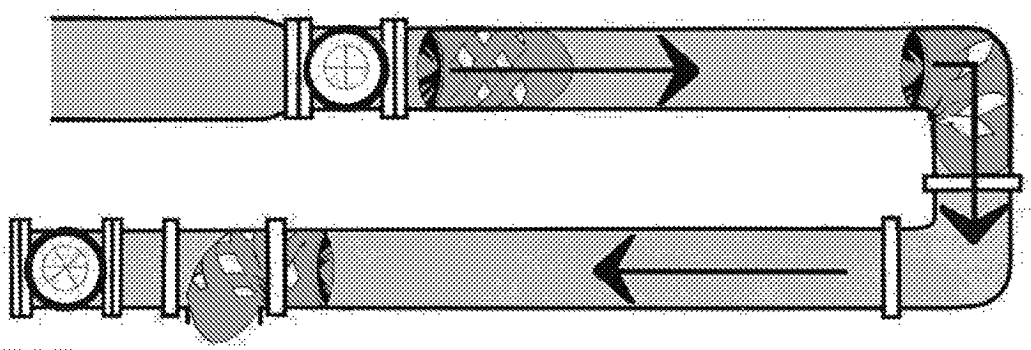
Constructed of flexible open cell polyurethane foam and various external wrappings, Poly Pigs have the ability to negotiate short radius bends, ells, tees, multi-dimensional piping and reduced port valves. The slightly oversized Poly Pig forms a "sliding seal" in the pipe, and is designed to remove product buildup, foreign matter and loose sediment.

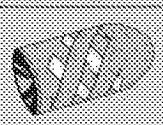
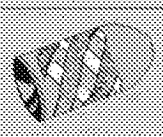
A few of the benefits that Poly Pigs can offer are:

- Increased pipeline carrying capacity
- Improved product quality
- Power savings by reducing pump pressure
- Confirmation of pipe and flow integrity

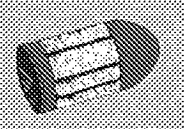
Pipeline Pigging Products offers Poly Pigs in a wide variety of styles (drying, wiping and scraping) to accommodate almost any application, such as oil & gas transmission, municipal, petro chemical, pulp and paper and process piping systems.

With over 60 years of combined experience in manufacturing, research and application, our knowledge of Poly Pigs is unsurpassed in the industry.



APPEARANCE	STYLE	MUNICIPAL SERIES TYPE	DENSITY	APPLICATIONS
	**B1**	Swab	1-2 lbs. cubic foot (16 - 32 Kg/M³	Proving; Sweeping; Sealing
	**B2***	Coated Swab	1-2 lbs. cubic foot (16 - 32 Kg/M³	Light Wiping
	**B3**	Bare	5-7 lbs. cubic foot (80 - 112 Kg/M³	Light Cleaning
	**B4***	Coated	5-7 lbs. cubic foot (80 - 112 Kg/M³	Cleaning
	**B5***	Wire	5-7 lbs. cubic foot (80 - 112 Kg/M³	Scraping

***Available with Rotating Pattern** (see back page)

APPEARANCE	STYLE	TYPE	DENSITY	APPLICATIONS
INDUSTRIAL SERIES				
	**C3**	Bare	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Drying
	**C4***	Coated	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Wiping
	**C5***	Wire	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Scraping
	**C6***	Carbide (Strap)	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Scraping
	**RX3**	Bare	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Drying
	**RX4***	Coated	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Wiping
	**RX5***	Wire	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Scraping
	**RX6***	Carbide (Grain)	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Scraping
	**G1**	Swab	1-2 lbs. cubic foot (16 - 32 Kg/M^3)	Light Duty Drying
	**G2***	Coated Swab	1-2 lbs. cubic foot (16 - 32 Kg/M^3)	Light Duty Wiping
	**G6***	Carbide (Grain)	1-2 lbs. cubic foot (16 - 32 Kg/M^3)	Light Duty Scraping
APPEARANCE	**SPECIAL APPLICATION SERIES**			
	**PB**	Power Brush ™	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Maximum Scraping
	**CPB**	Plastic Brush	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Light Wiping
	**RXSS**	Single Spiral	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Economical Wiping

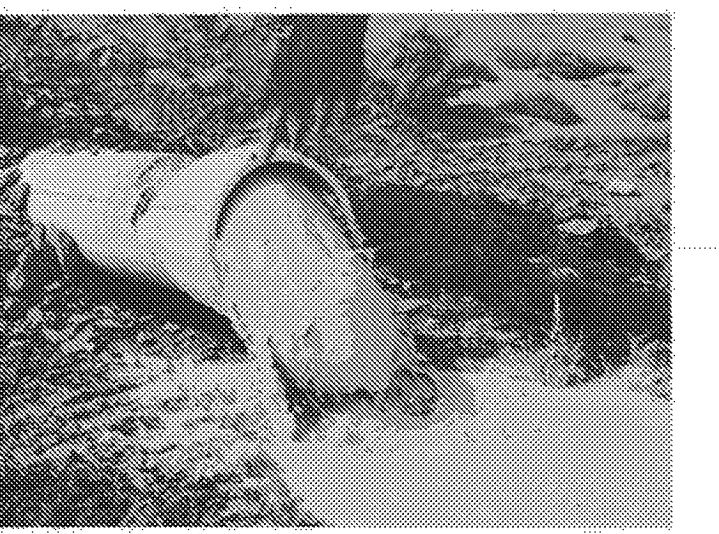
***Available with Rotating Pattern** (see back page)

	Rotating Pattern	— Promotes longer even wear in most applications Available on all coated and wire styles
	Rope Loop(s) Cable Loop(s)	— For handling; pulling Available on all styles
	Double Dish	— Liquid removal; bi-directional runs Available on all styles
	Double Nose	— Bi-directional runs with pipe reductions Available on all styles
	Cavity	— For housing electronic tracking transmitter Available on all styles
	Stud Pig	— Extra hard scale removal



1. Poly Pig exits potable water piping system after traveling 1,300'.

2. A 12" Poly Pig exits piping system after traveling several miles.

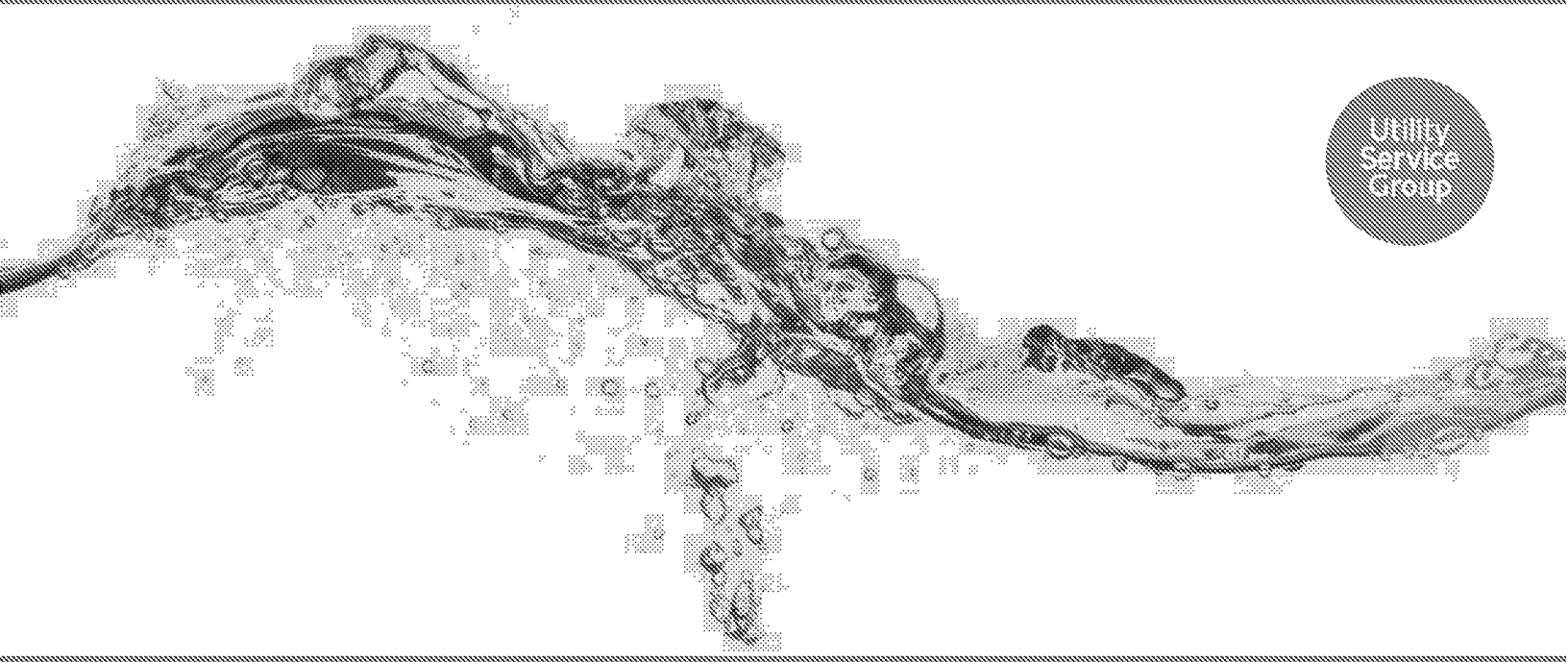


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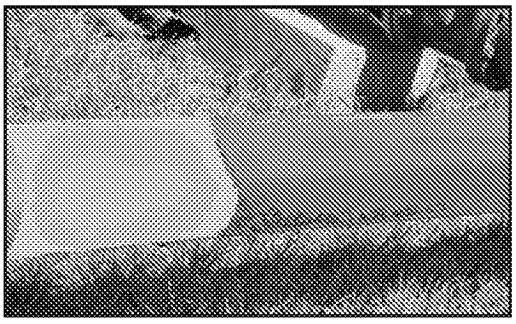
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PIGGING

ICE PIGGING for water & wastewater main cleaning!



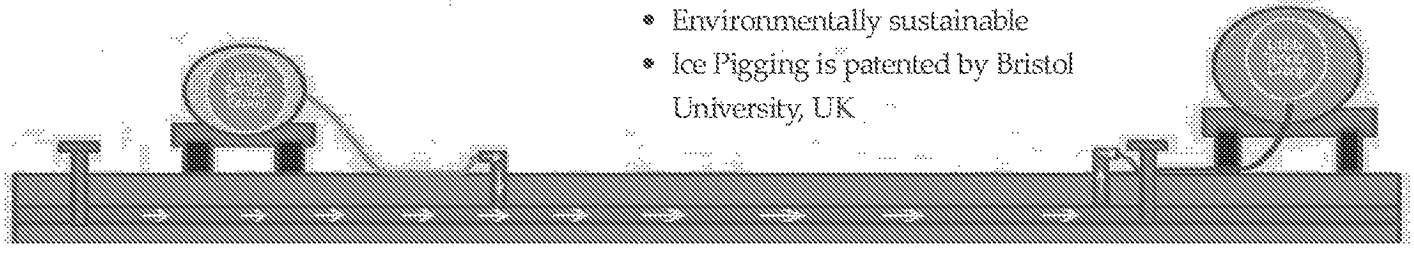


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Value of Utility Service Group Ice Pigging Program:

- 1,000 times more effective removal of biofilm and sediment
- Produces quantifiable results
- Lowers disinfectant demand
- Requires no excavation
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- Requires only 1/2 the time of other techniques
- No requirement to disinfect post cleaning
- Less disruptive/expensive than solid/foam pigging
- Uses 50% less water than conventional flushing
- Environmentally sustainable
- Ice Pigging is patented by Bristol University, UK



Utility Service Group

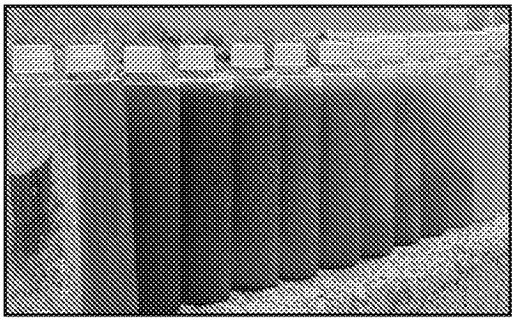
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PIGGING

USG Advanced Pipe Cleaning (Ice Pigging)



Utility Service Group Ice Pigging Program includes:

- Combines operational advantages of flushing with cleaning impact of soft pigging
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- Pig behaves like a liquid, flows through changes in diameter, through bends and butterfly valves without blockage
- Efficient, rapid and environmentally friendly way to clean water pipes
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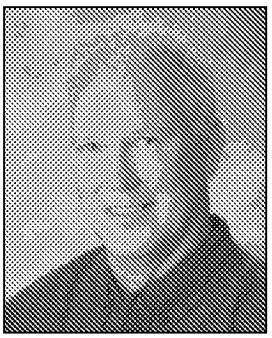
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by Gary Armentrout

Flushing and pigging: basic waterline maintenance

The daily operation of a public water system involves different aspects of many separate business and technical disciplines. In the course of a normal workday, operators will take a minimum of one to as many as 10 or 12 water samples. They may look for a water leak somewhere in the distribution system and will talk to three, four or more system customers about a variety of subjects. Operators may change out or add a customer water meter, repair a water leak, discuss purchases with sales reps and recheck meter readings on customer meters because "they just couldn't have used that much water." They might also have discussions with the project engineer about an upcoming project, and still make time to do some maintenance to the distribution system and equipment.



Gary Armentrout
Technical Assistant

Speaking of maintenance, there are many different types of equipment maintenance. They go by the more mundane maintenance monikers of "Before Operations Maintenance Checks," or "During Operations Maintenance Checks" and the not to be left out, "After Operations Maintenance Checks." There is also the entirely separate category of "Preventive Maintenance Checks."

"Maintenance Shmaintenance," it all means the same thing! Maintenance has to be performed on trucks, cars, meters, pumps, hand tools, power tools. It must also be performed on computers, buildings, wells, towers, clear wells, clarifiers and just about every component in the entire system that has zero or more moving parts. Operators need to take care of system equipment if it is to provide long and reliable service.

In this article, the focus is on the part of the system that is nearly invisible and out of sight. It is the distribution system. These pipelines are buried in the cool, dark, damp underground. It is the wish and hope of everyone involved that they stay there, causing no problems – in total silence.

Unwanted buildup on the inside of most water distribution systems has been going on since the day the first valve was turned, and water started to flow through the system. How does a system avoid this buildup or deal with it?

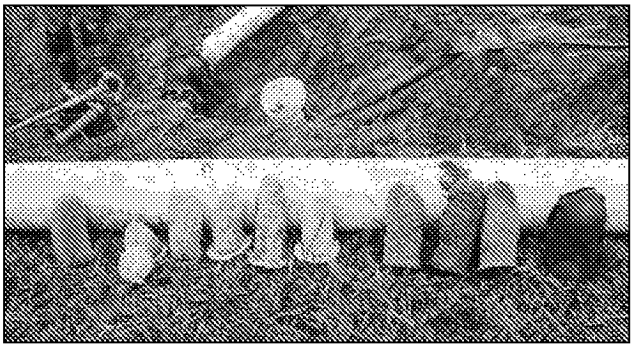
There are many things that can be done to correct this problem.

Unwanted buildup on the inside of most water distribution systems has been going on since the day the first valve was turned, and water started to flow through the system.



A Fort Scott, Kan. city crew inserts a soft pig into a 4-inch ductile iron line.





Left: *The before and after look of a soft pig in the hands of Fort Scott Water Distribution Supervisor Bill Lemke.*

Above: *Pigs in a row,10 of 12 pigs used in a water line maintenance operation. The missing two pigs came out in pieces less than a quarter dollar in size.*

Some actions include changing the pH of the water, adding certain types of chemicals, and cleaning the inside of the pipe.

Flushing, as a prevention

The purpose of flushing of a water system is to remove any accumulated sediments or other impurities that have been deposited in the pipe. Flushing can also improve the flow of water, in effect, restoring the pipeline to its original capacity. Flushing is performed by isolating sections of the distribution system and then opening flush or fire hydrants to allow a large volume of water to move through the isolated pipeline and scour out any sediment.

Pigging, as a remedy

Water mains may also be mechanically cleaned with the use of swabs or pigs, as well as a variety of other means. KRWA has published numerous articles on the topic of pigging, describing the benefits of the projects from improved water quality to greater energy efficiency,

Pigs are devices that are forced through a section of line to scrape the accumulated deposits off the inside of the pipe. Pigging is now routinely conducted at the time of installing new waterlines. While some might contend that a requirement to pig a pipeline adds to the cost, I respectfully suggest that if project circumstance were to prohibit a contractor from pigging, the cost should increase. It's been proven that pigging newly installed pipelines reduces water loss due

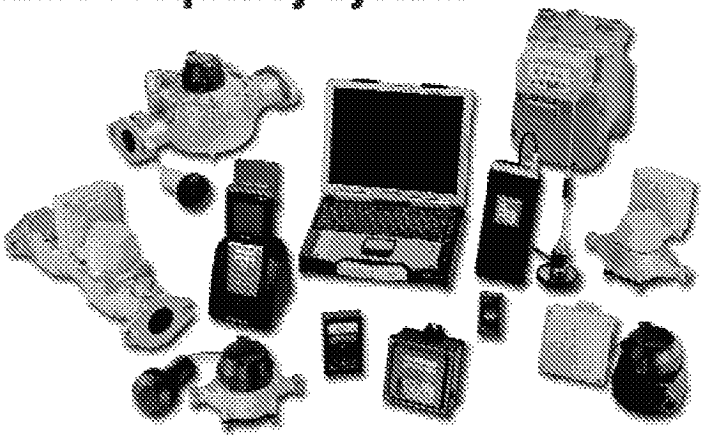
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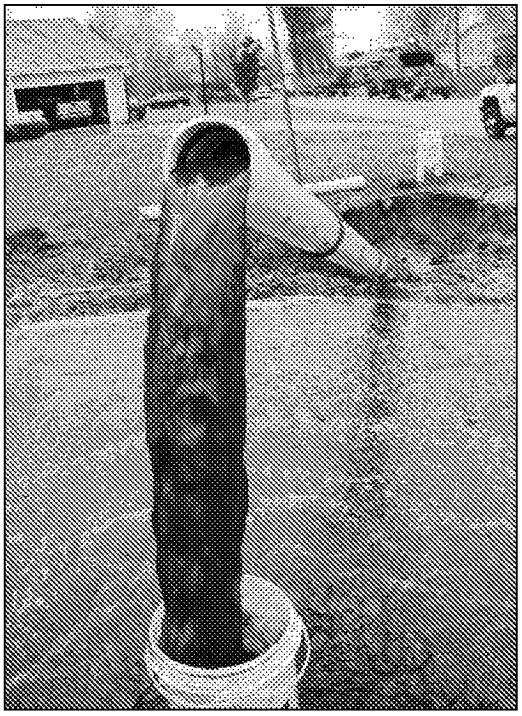
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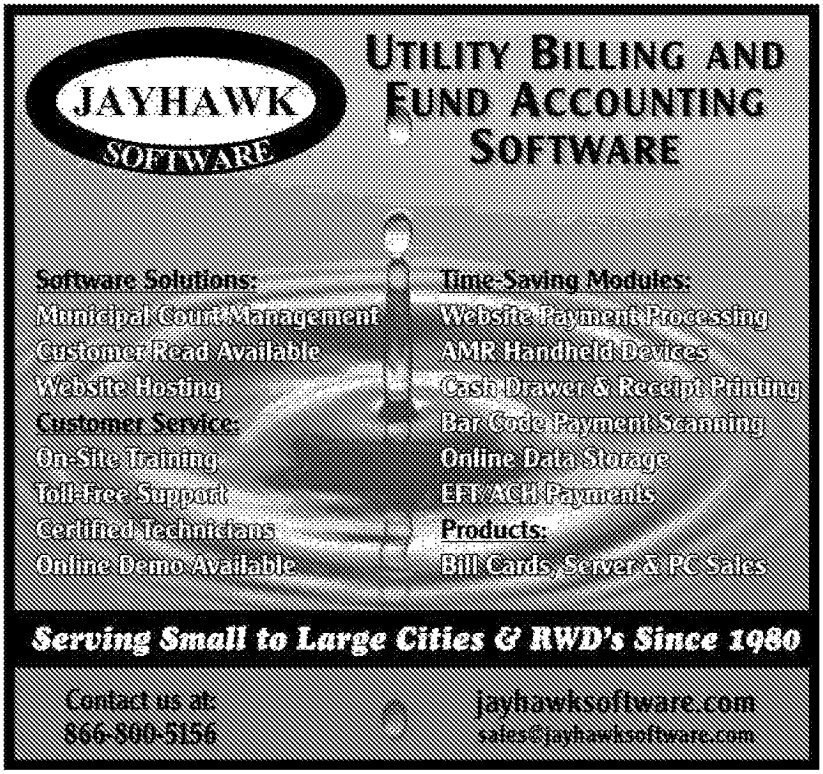


The concentration of buildup is evident coming from the inside of a ductile iron main. After years of operation and depending on water quality, excessive mineral deposits often build up inside waterlines. Pigging can often remove the deposits, improving water quality and flow characteristics.

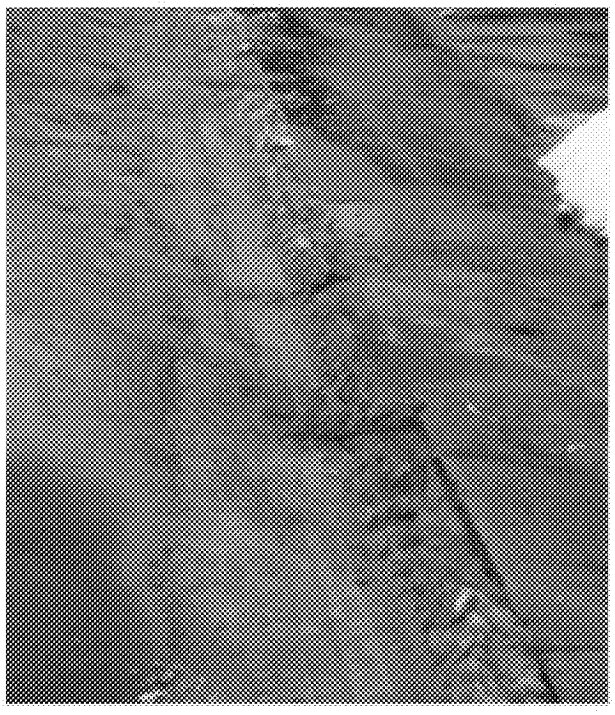
to flushing by 75%, to say nothing for the reduction of labor to complete the process of getting a new extension or pipeline into service.

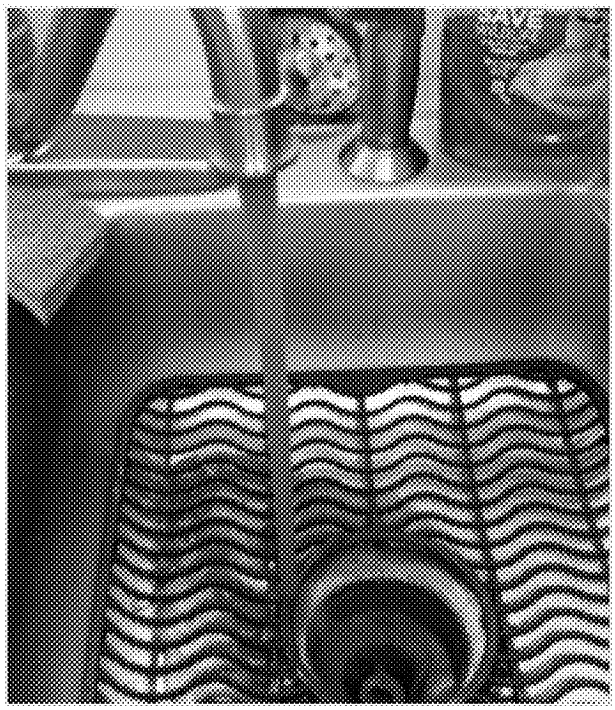
When there is a buildup inside water lines that cannot be removed by simple flushing, pigging is a cost efficient, effective and environmentally friendly alternate. Most important, it is an economical alternate to line replacement. No matter what type of pipe is in the distribution system, there is a pig to do the job as needed. There are four basic types of pigs used today. Each pig is designed for a specific job. They are the polyurethane foam pigs, mandrel or mechanical pigs, solid cast urethane pigs and the high tech "smart pigs." If a system's water lines are cast iron or ductile iron, there is a very good chance of needing to pig at least some sections. The deposits in the pipelines can cause enough restriction that flow will be reduced. PVC lines normally are not subjected to the same degree of buildup as cast iron or ductile iron pipelines. PVC however will often have sediment at the bottom of the pipeline along with a thin coating covering the entire inside. A foam pig can normally remove this type of buildup. This type of pig can also be reused after traversing segments of PVC pipe. If, on the other hand the pig is used in a cast or ductile iron pipe, it is usually torn to shreds as it moves through the line. It is KRWA's experience that pigging small diameter iron pipelines may not be practical if there is a high degree of buildup. It may be impossible to remove hardened deposits from small diameter lines of one to four inches. KRWA techs have experienced pigging projects where a city system had some 4-inch pipeline with so much buildup that no daylight could be seen through even a 20-foot section.

Pipe maintenance is a very important part of the overall maintenance program of any water system. I suggest that systems practice flushing as a preventive measure and pigging as a remedy. If assistance is needed in setting up a maintenance program for a city or RWD, or there is a need to discuss flushing or pigging, contact KRWA at 785/336-3760 or e-mail KRWA at krwa@krwa.net.











From: Wurfel, Brad (DEQ)
Sent: Tuesday, March 17, 2015 6:33 AM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Fwd: Flint

Just FYI. Still no word from drinking water. Will get it to you as soon as I have it.
On Tarmac in Detroit. Plane departs in 10 minutes. Get a couple hours in Miami starting around 10 am.
b

Sent from my iPhone

Begin forwarded message:

> **From:** <WurfelB@michigan.gov>
> **Date:** March 16, 2015 at 4:43:34 PM EDT
> **To:** "Liane Shekter Smith (DNRE)" <SHEKTERL@michigan.gov>, Stephen Busch <BUSCHS@michigan.gov>, Richard Benzie <BENZIER@michigan.gov>
> **Subject: Flint**
>
> Hey, all. Harvey has a meeting with city residents Wednesday. Need that enforcement info ASAP, tomorrow at latest and sooner is better. Also, on the water filter issue, spoke with Wyant today and and he much liked the idea of having a specific product recommendation come from one of the cities contractors.
> Steve, can you please get contact information for the best contractor in Flint to address this?
> Thank you!
> Sent from my iPhone

From: Wurfel, Brad (DEQ)
Sent: Wednesday, April 08, 2015 3:43 PM
To: Shekter Smith, Liane (DEQ)
Cc: Wyant, Dan (DEQ);Datema, Maggie (DEQ);Tommasulo, Karen (DEQ)
Subject: Re: Flint water system from Mlive

Seems we've reached that part of the conversation -- what would it take to get
the number of outstanding revolving loan funds from around the state

A dollar figure for what those loans represent

The number of communities with loan applications pending with us right now

Total dollars requested.

Total available in the corpus of the fund today.

?
I know it's a lot. But This dialogue is happening in a vacuum. It needs to be broadened so folks can understand what this means, what it sets up, and who will sacrifice. A foal 'No' from EPA won't get us there. Help?

Sent from my iPhone

On Apr 8, 2015, at 3:22 PM, Shekter Smith, Liane (DEQ) <SHEKTERL@michigan.gov> wrote:

> I spoke with EPA this afternoon. They are preparing a response to the Representative's letter. It is anticipated to be sent out this week.

> **From:** Fitzner, Wendy (DEQ)
> **Sent:** Wednesday, April 08, 2015 3:21 PM
> **To:** Green, Kelly (DEQ); Butler, Sonya (DEQ); Shekter Smith, Liane (DEQ)
> **Subject:** Flint water system from Mlive
>
> # Rep. Kildee asks EPA about clearing Flint's $22-million water loans

Print Email
<image001.png>By Ron Fonger | rfonger1@mlive.com The Flint Journal
on April 08, 2015 at 2:01 PM

RedditEmail

<image002.jpg>Dan Kildee

FLINT, MI -- U.S. Rep. Dan Kildee says the state may have the authority to forgive Flint's $22 million in remaining water loans, potentially freeing up that money for "immediate water infrastructure improvements."

"We don't know if the state would grant relief, (but) we don't want to be in a position where they think they don't have the authority," Kildee said today, April 8.

The congressman asked U.S. Environmental Protection Agency Administrator Gina McCarthy for clarification on whether the debt can be forgiven, citing two provisions in federal law that could allow Gov. Rick Snyder to take action because of Flint's status as a disadvantaged community.

Kildee said he made the request in a March 26 letter to the EPA.

MLive-The Flint Journal could not immediately reach an agency representative for comment.

Dave Murray, a spokesman for Snyder, said in an email that Snyder "doesn't believe it is appropriate to answer hypothetical questions."

Murray said last month that the state Treasury Department "doesn't have the legal authority to forgive loans, and this has been shared with Flint city leaders."

His email today said the loans are a mix of federal and state dollars and said treasury officials do "not believe there is any pathway in federal law that would allow for loan forgiveness."

"Gov. Snyder and the state continue to offer assistance to city leaders in their efforts to address long-standing water infrastructure issues in Flint," the statement says.

Kildee said he believes it's more than likely that Snyder has the authority to act, based in part on a legal opinion from the Congressional Research Service.

Kildee's request comes less than a month after Flint Mayor Dayne Walling renewed his request to Snyder to forgive the water loans because of the city's continuing financial emergency.

Snyder declared Flint was in a financial emergency in 2011 after a review team issued a report, and since then the city has been run by a succession of four state-appointed emergency managers.

Emergency manager Jerry Ambrose authorized the restructuring of Flint's four outstanding Drinking Water Revolving Fund bonds on March 19, postponing current principal payments and freeing up $2.2 million to help fix water safety and quality in the city.

Murray said the state allowed that action so that the loan repayments can be used for expenses tied to "maintaining safety and improving the quality of Flint water."

The city's water bonds are currently financed at a rate of 2.5 percent, and delaying the principal payment will increase the cost of the borrowing by approximately 2 percent -- or $228,000 -- over the 20-year life of the issues, the city has said.

The city has been struggling with the quality of its drinking water since it started using the Flint River as a water source in April 2014.

Flint was found to be in violation of the federal Safe Drinking Water Act because the annual average level of total trihalomethanes (TTHM) at two testing locations in the city since April 2014 was too high.

TTHM is a byproduct of chlorinating water and warnings issued by the city say the contaminant in high levels could increase the risk of cancer if consumed over many years.

The most recent tests have shown that each of eight sampling locations in the city had acceptable levels of TTHM, but residents and City Council members have continued to complain about water quality issues like discoloration and odor.

City officials have said the water meets safety standards for drinking, and that those quality issues are tied to Flint's aging water infrastructure, which includes distribution pipes that are breaking at a rate of nearly one per day and which are too large for the current population.

Kildee said Flint is among older cities in Michigan that are struggling with population loss and maintaining infrastructure that was built decades ago when more people lived here to support it.

"It makes it harder for the city to dig itself out of a hole (now)," Kildee said. "I think it does create a unique circumstance for cities like Flint ... trying to go from the old to the new economy."

Many of the water problems here have come to light since the city began using the Flint River as its water source one year ago.

Although the city and Genesee County are currently building a new water pipeline to Lake Huron, it's not expected to be completed until some point in 2016.

FLINT WATER

- **Rep. Kildee asks EPA about clearing Flint's $22-million water loans**
- **Flint pastors plan news conference on 'lack of progress' on Flint water issues**
- **Flint councilman equates water troubles to 'genocide' by governor**
- **Flint Mayor Dayne Walling: I drink Flint water every day**
- **TTHM contaminant notices, water quality updates ready for mailing to Flint customers**

http://www.mlive.com/news/flint/index.ssf/2015/04/kildee_asks_feds_about_forgive.html#incart_river

Wendy Fitzner, Chief
East Project Management Unit,
Revolving Loan Section
Office of Drinking Water and Municipal Assistance
517-248-5406

From: Wurfel, Brad (DEQ)
Sent: Thursday, July 09, 2015 5:28 PM
To: Busch, Stephen (DEQ);Benzie, Richard (DEQ);Shekter Smith, Liane (DEQ)
Cc: Pallone, Maggie (DEQ);Wyant, Dan (DEQ)
Subject: RE: here's the interim report

Check. Thanks.
b

From: Busch, Stephen (DEQ)
Sent: Thursday, July 09, 2015 5:21 PM
To: Wurfel, Brad (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Cc: Pallone, Maggie (DEQ); Wyant, Dan (DEQ)
Subject: RE: here's the interim report

Obviously we are not going to comment on an interim draft report.

To address your question from Lindsey, the following text comes from an official memorandum of Benjamin H. Grumbles, Acting Assisant Administrator of EPA at the time, November 23, 2004, to all EPA Regional Administrators Subject: Lead and Copper Rule (LCR) – Clarification of Requirements for Collecting Samples and Calculating Compliance, which in part states:

"The LCR also defines a proper sample as a first draw sample, 1 liter in volume, that is taken after water has been standing in plumbing for at least six hours, and from an interior tap typically used for consumption – cold water kitchen or bathroom sink tap in residences. [40 CFR 141.86(b)(2)] There is no outer limit on standing time."

While it indicates there is no outer limit on standing time, the only requirement is that it be at least those six hours. This was also incorporated into the 2007 LCR minor revisions.
See link below (note the final question at the bottom of the page on long term revisions the response for which includes "broader revisions to monitoring")
http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/fs_lcr_2007_final.cfm

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Wurfel, Brad (DEQ)
Sent: Thursday, July 09, 2015 4:54 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Cc: Pallone, Maggie (DEQ); Wyant, Dan (DEQ)
Subject: FW: here's the interim report

Steve,
The ACLU has saved us the trouble of waiting on EPA for the report … it's online at the link below. Lindsey Smith at MI Public Radio picked up the story from Josh. Her inquiry has to do with EPA's Miguel making an assertion that we (DEQ) encourage people to flush their pipes before taking a

water sample … which is the opposite of what you described to me as the protocol. Miguel apparently asserts that the DEQ and EPA are at odds on proper protocol. Which seems weird.

Let's discuss. Thanks!
b

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Thursday, July 09, 2015 4:48 PM
To: Wurfel, Brad (DEQ)
Subject: here's the interim report

http://www.aclumich.org/sites/default/files/file/EPAWaterReport062415.pdf

--
Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

From: Wurfel, Brad (DEQ)
Sent: Friday, July 24, 2015 4:18 PM
To: Saxton, Thomas (Treasury);Muchmore, Dennis (GOV);Wyant, Dan (WyantD@michigan.gov)
Subject: FW: Need upate on lead / copper tests for Flint
Attachments: DWSD-CorrosionControlStudy.pdf; Flint lead history.pdf; DWSD-Flint-1993-Lead-Letter.pdf

Guys, here's an update and some clarification on the lead situation in Flint. Please limit this information to internal for now.

By the tenants of the federal statute, the city is in compliance for lead and copper. That aside, they have not optimized their water treatment (for the most part, this means adding phosphates to minimize the degree that the water Ph mobilizes lead and copper in people's home plumbing).

Compliance with the standard started with testing. A June-December run of tests (all in homes with lead in their premise plumbing) concluded in December. Another January – June round of sampling concluded last month. Everything checks out in terms of compliance, but now the next step is optimizing the water supply.

So, In about two weeks, DEQ will be sending a formal communication about the optimizing issue. The federal program has long timelines for action. A community water supplier gets 18 months to study the options, and two years thereafter to implement water system optimization measures.

My point: Conceivably, by the time we're halfway through the first timeline, the city will begin using a new water source with KWA … and conceivably, the whole process starts all over again.

In terms of near-future issues, the bottom line is that residents of Flint do not need to worry about lead in their water supply, and DEQ's recent sampling does not indicate an eminent health threat from lead or copper. That said, anyone with lead pipes in their premise plumbing (this translates to tens of thousands of homes in our older urban centers, btw) should at least be aware that they have them, and to some limited degree that's going to impart minute parts per billion of lead in water no matter what. Its why nobody uses lead water pipes anymore.

The long version of this note is below. Let's connect next week. I'd like some thoughts about what more the state could be doing – most immediately, to convey the results of our testing and tell the story to the residents of Flint in an effort to quell some fears.
Thanks!
b

From: Busch, Stephen (DEQ)
Sent: Friday, July 24, 2015 3:46 PM
To: Wurfel, Brad (DEQ)
Cc: Shekter Smith, Liane (DEQ); Wyant, Dan (DEQ); Pallone, Maggie (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Subject: RE: Need upate on lead / copper tests for Flint

Brad,

As we discussed, the City has completed the last round of monitoring (Jan 1 – June 30, 2015). The last samples came in about a week ago. We have made the compliance determination that the 90th percentile level is 11 parts per billion, which is below the Action Level Standard of 15 parts per billion (there is no Lead maximum contaminant level standard). The federal rule requires measuring lead levels in water from household plumbing materials to determine the corrosivity of the City's water in order to limit exposure.

I have provided a summary of Flint's lead compliance monitoring from the last 20+ years since this regulation started in 1991. The City of Flint itself has never had a 90th percentile level exceed the 15 part per billion action level. Sampling requirements look at the worst case plumbing materials. Samples must be collected in accordance with the regulatory requirements and criteria in order to be used for compliance determinations.

Because the City of Flint serves a population of over 50,000 they are required to have Fully Optimized Corrosion Control. While it is possible to meet the fully optimized requirement without additional treatment, based on their two rounds of sampling since switching to the Flint River, we have determined they did not meet the eligibility for this per the regulation. They now have to complete a study (within 18 months) and are then allowed a period of additional time (2 additional years) to install the selected treatment for Fully Optimized Corrosion Control in accordance with the regulatory requirements. This is what DWSD was required to do back in 1993 – 1997 (see attached letter and study). We are planning to suggest the City directly submit a treatment process to shorten the timeline to achieve full optimization. This letter is currently being drafted but won't be ready to mail out for another week.

Liane and I had a conference call with EPA region V in Chicago on Tuesday to go over all of this and they are in support of these next steps with the City.

The matter will be potentially further complicated when the City switches over to water from the Karegnondi Water Authority next year to re-evaluate the continuing requirement to fully optimize corrosion control.

The DEQ recognizes that there is has been no level of lead exposure determined to be safe, but again the regulation was developed to optimize water corrosivity to limit exposure and the City is following the regulatory requirements.

Lead is not coming from the Flint River or the City's Water Treatment Plant or the public distribution system. It is from lead service lines into homes and from plumbing materials and fixtures within the private property of the household.

As watermains are replaced within the City lead services associated with that section of watermain would be replaced in order to reconnect to City water. This would also place burden on the homeowner to pay for having the service line re-plumbed. However, since 2000 only 16 miles of the City's 500 miles of watermain have been replaced as they did not have the financial means to do so.

Let us know if there are questions or you need any additional information.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, July 24, 2015 12:09 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)

Cc: Shekter Smith, Liane (DEQ); Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Subject: Need upate on lead / copper tests for Flint

Guys, the Flint Ministers met with the Governor's office again last week. They also brought along some folks from the community – a college prof and a GM engineer – who imparted that 80 water tests in Flint have shown high lead levels.

Could use an upate on the January / june testing results, as well as recap of the December testing numbers, and any overview you can offer to edify this conversation.
Call me or email today if possible. Thanks!
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

This Document is a Non-Responsive Attachment.

City of Flint Lead and Copper Rule Monitoring History						
Monitoring Period	90th Percentile (parts per billion)	Number of Samples above 15 ppb	Samples Required	Samples Collected	Required Frequency	
Jan. - June 2015	11 ppb	6	60	68		*Unofficial
July - Dec. 2014	6 ppb	2	100	100	6 months	
New Source and Treatment - Flint River and Flint WTP						
June - Sept. 2011	0 ppb	0	23	23	3 years	
June - Sept. 2008	0 ppb	0	33	33	3 years	
June - Sept. 2005	1.4 ppb	0	33	33	3 years	
June - Sept. 2002	4 ppb	1	33	33	3 years	
June - Sept. 2001	4.4 ppb	0	33	33	1 year	
June - Sept. 2000	7 ppb	2	33	33	1 year	
Jan. - June 1999	5 ppb	0	33	33	1 year	
July - Dec. 1998	7.4 ppb	1	33	33	6 months	
July - Dec. 1997	5 ppb	1	33	33	6 months	
Jan. - June 1997	4.5 ppb	1	33	33	6 months	
DWSD Study and OCC Treatment						
July -Dec. 1992	14.4 ppb	3	33	33	6 months	
Jan. - June 1992	15 ppb	4	33	33	6 months	

This Document is a Non-Responsive Attachment.

From: Wurfel, Brad (DEQ)
Sent: Friday, July 31, 2015 2:32 PM
To: Wyant, Dan (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ)
Cc: Karen Tommasulo;Wurfel, Sara (GOV)
Subject: Fwd: Updated Memo on Water Coalition Questions - July 29
Attachments: Flint Testing and EBLLs_2.xlsx; ATT00001.htm

Interesting.

Sent from my iPhone

Begin forwarded message:

> **From:** "Lyon, Nick (DCH)" <LyonN2@michigan.gov>
> **Date:** July 31, 2015 at 10:56:42 AM EDT
> **To:** "Muchmore, Dennis (GOV)" <muchmored@michigan.gov>, "Workman, Wayne (TREASURY)" <WorkmanW@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Clement, Elizabeth (GOV)" <clemente@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>
> **Cc:** "Saxton, Thomas (Treasury)" <SaxtonT@michigan.gov>, "Wisniewski, Wendy (GOV)" <wisniewskiw@michigan.gov>, "Grijalva, Nancy (DCH)" <GrijalvaN@michigan.gov>
> **Subject: Re: Updated Memo on Water Coalition Questions - July 29**
>
> Our Public Health staff followed up a bit more on the lead question. Below is their email update to me.
>
> From: Grijalva, Nancy (DCH)
> Sent: Wednesday, July 29, 2015 11:23 AM
> To: Lyon, Nick (DCH)
> Subject: FW: Director's Office Assignment -- Flint - need update asap
>
> FYI.....
>
> -----Original Message-----
> From: Peeler, Nancy (DCH)
> Sent: Tuesday, July 28, 2015 2:57 PM
> To: Anderson, Paula (DCH); Miller, Corinne (DCH); Travis, Rashmi (DCH); Moran, Susan (DCH); Grijalva, Nancy (DCH); Fink, Brenda (DCH)
> Cc: Priem, Wesley F. (DCH); Dykema, Linda D. (DCH); Bouters, Janese (DCH); Barr, Jacqui (DCH)
>
> Subject: RE: Director's Office Assignment -- Flint - need update asap

I apologize for the delay in responding more specifically to this assignment, it took some time to review our Childhood Lead Poisoning Prevention program data to see if it might contribute to the understanding of the situation in Flint with their water supply. Here is what we found:

We looked at lead testing results for May 2014-April 2015, which is the 12 month time frame just after Flint started drawing their water from the river (water source changed in April 2014).

We compared lead testing rates and lead testing results to the same time frame for the previous 3 years, to see if there were any patterns that suggested that there were increased rates of lead poisoning after the water supply was switched. Per the attached charts –

- Lead testing rates remained about the same from year to year (chart on the right).
- There was a spike in elevated blood lead tests from July-September 2014 (chart on the left, gold line).
- However that pattern was not terribly different from what we saw in the previous three years, especially in 2011-2012 (we are working with our Epidemiologist to statistically verify any significant differences).
- We commonly see a 'seasonal effect' with lead, related to people opening and closing windows more often in the summer, which disturbs old deteriorating paint on the windows, sills and sashes. Window fans frequently blow and spread the lead dust from the deteriorating paint to other parts of the room/house. We suspect that the summer data spike may be related to this effect.
- If the home water supply lines and/or river water were contributing to elevated blood lead tests, we expected that the increased rates would extend beyond the summer, but they drop quite a bit from September to October, stayed low over the winter, and are just starting to tail up again in the spring of 2015.

So upon review, we don't believe our data demonstrates an increase in lead poisoning rates that might be attributable to the change in water source for Flint. We recognize that lead exposure via the water is only a small piece of what may be happening for families in Flint, however, we hope the information is helpful.

Nancy Peeler

From: Muchmore, Dennis (GOV)
Sent: Wednesday, July 29, 2015 9:02 AM
To: Workman, Wayne (TREASURY); Wurfel, Brad (DEQ); Lyon, Nick (DCH); Clement, Elizabeth (GOV); Hollins, Harvey (GOV)
Cc: Saxton, Thomas (Treasury); Wisniewski, Wendy (GOV)
Subject: RE: Updated Memo on Water Coalition Questions - July 29

I think this information is very helpful. It will not answer the main question about the quality of the water (DEQ is working on that through Brad I believe), and the color and smell of the present water, but it does get us to the answers to the less subjective issues. Frankly, the only way the issues will be totally resolved is when the KWA comes on line and the water is perceived to be cleaner and healthier.
I am somewhat surprised that the leadership in Flint has not responded better to the community questions, which don't seem unreasonable at all. Seems like Harvey has a better network into some of the neighborhoods than the city does. The KWA PR department definitely needs to do some outreach or they're headed down the same road as DWSD. Do you know if they go out on a regular basis to the community and talk about the rates, costs, etc.?

From: Workman, Wayne (TREASURY)
Sent: Wednesday, July 29, 2015 8:36 AM
To: Muchmore, Dennis (GOV); Wurfel, Brad (DEQ); Lyon, Nick (DCH); Clement, Elizabeth (GOV)
Cc: Saxton, Thomas (Treasury); Wisniewski, Wendy (GOV)
Subject: FW: Updated Memo on Water Coalition Questions - July 29
Importance: High

All, Attached is a memo and water rate summary answering several of the questions raised by the Flint pastors. Please let me know if you have any questions. Wayne

Wayne L. Workman
Deputy State Treasurer
Michigan Department of Treasury

From: Cline, Richard (Treasury)
Sent: Wednesday, July 29, 2015 8:21 AM
To: Workman, Wayne (TREASURY)
Cc: Dempkowski, Angela (Treasury); Byrne, Randall (Treasury)
Subject: Updated Memo on Water Coalition Questions - July 29
Importance: High

Wayne,

Attached is the water rate table you asked for and I have updated the memo to reference this as an attachment.

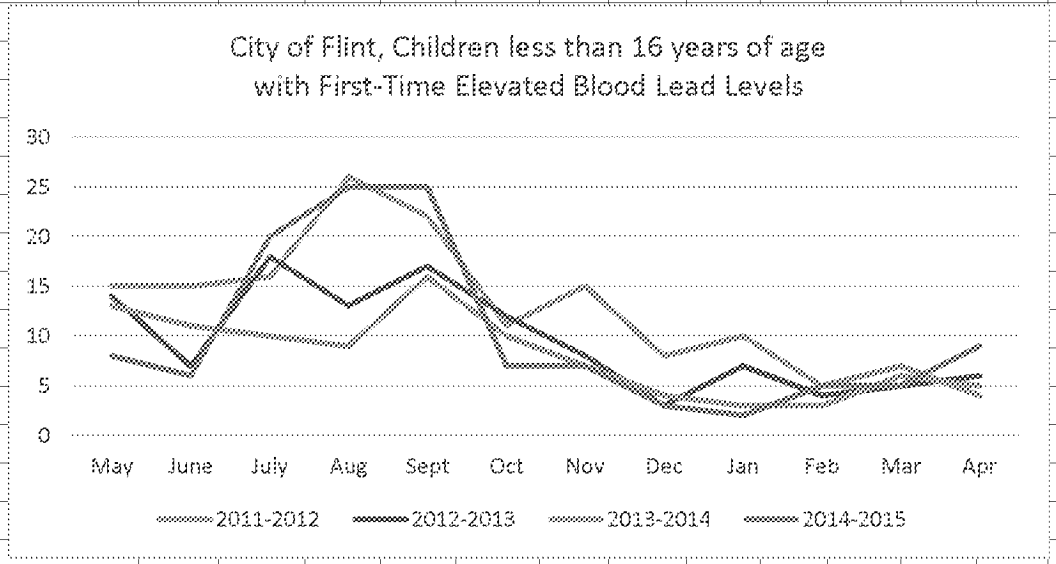
If you need anything else, please let me know.

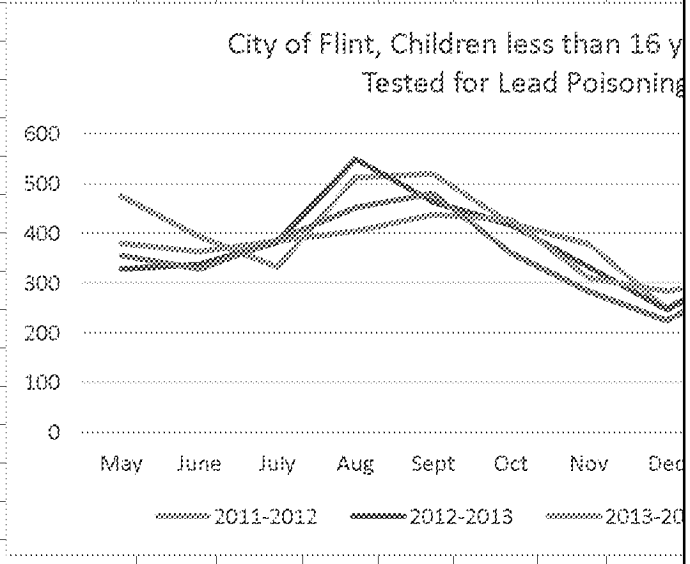
Note that Rob, Randy and I will be in Benton Harbor for a portion of today conducting their annual RTAB evaluation.

Eric Cline | Department Manager
State of Michigan | Michigan Department of Treasury | Office of Fiscal Responsibility

430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
Lansing Office (517) 335-2078 | Cell Phone PPI | Traverse City Office (231) 922-5228
E-mail clinerl@michigan.gov

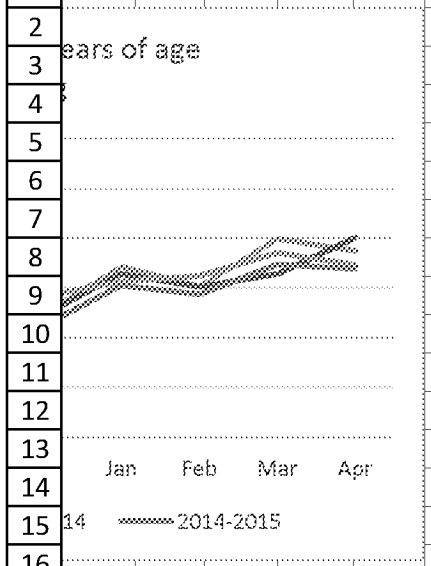
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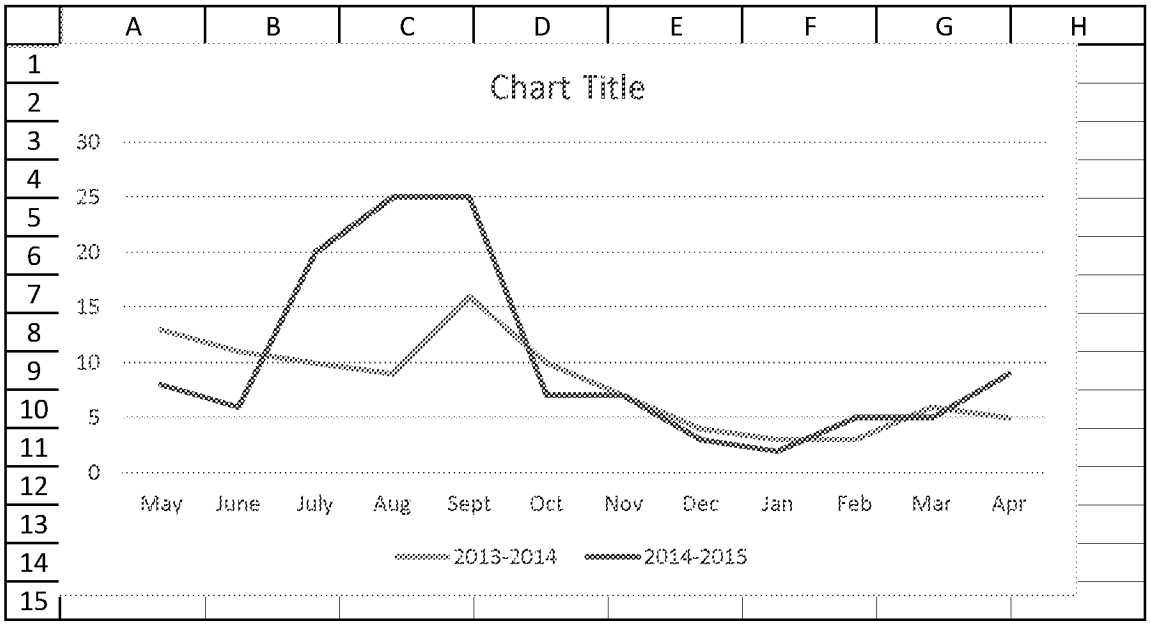


		May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
2011-2012		15	15	16	26	22	11	15	8	10	5	7	4
2012-2013		14	7	18	13	17	12	8	3	7	4	5	6
2013-2014		13	11	10	9	16	10	7	4	3	3	6	5
2014-2015		8	6	20	25	25	7	7	3	2	5	5	9

		May	June	July	Aug	Sept	Oct	Nov
2011-2012		474	393	332	513	520	420	379
2012-2013		328	338	383	550	464	417	332
2013-2014		380	363	385	404	438	427	310
2014-2015		356	329	386	452	480	361	283



	W	X	Y	Z	AA	AB
18	Dec	Jan	Feb	Mar	Apr	
19	249	343	303	399	375	
20	246	328	303	328	402	
21	283	313	325	371	346	
22	224	305	287	348	339	


Chart Title
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May
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Nov
Dec
Jan
Feb
Mar
Apr
2013-2014
2014-2015

From: Wurfel, Brad (DEQ)
Sent: Tuesday, September 08, 2015 2:25 PM
To: Benzie, Richard (DEQ);Shekter Smith, Liane (DNRE) (SHEKTERL@michigan.gov);Sygo, Jim (DNRE) (SygoJ@michigan.gov);Wyant, Dan (WyantD@michigan.gov)
Cc: Tommasulo, Karen (DEQ)
Subject: FW: flint water

Heads up. Comments to Flint Journal.
b

From: Wurfel, Brad (DEQ)
Sent: Tuesday, September 08, 2015 2:20 PM
To: 'Ronald Fonger'
Cc: Busch, Stephen (DEQ)
Subject: RE: flint water

Ron,

As we discussed last week, the state DEQ is just as perplexed by Edwards' results as he seems to be by the city's test results, which are done according to state and federal sampling guidelines and analyzed in certified labs.

When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. There are a conservatively estimated 15,000 old homes with lead plumbing in Flint alone, and this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.

It's scientifically probable a research team that specializes in looking for lead in water could have found it in Flint when the city was on its old water supply. We won't know that, because they've only just arrived in town and quickly proven the theory they set out to prove, and while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that.

As I mentioned last week, the issue here isn't Flint's water source or water plants. It's the high number of older homes with lead pipes and lead service connections. Anyone with lead plumbing in their homes should recognize there's some communication of lead from that.

The state and the EPA are working together in Flint – have been from the start, and we are in regular communication with federal counterparts to discuss Flint water. The state's program has been in place, protecting community water supplies for more than 40 years around the state. The reason this conversation began is because we have lead and copper rules; the city met the state and federal standard, and has agreed to further optimize its system to even further reduce lead levels, but let's be clear: lead pipes means some lead in water, at some level. Folks who have concerns should get a water specialist to take a look at their home and see what they need to do to achieve peace of mind, because lead and copper are home plumbing problems that no water source can eliminate entirely.

b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

From: Ronald Fonger [mailto:RFONGER1@mlive.com]
Sent: Tuesday, September 08, 2015 11:39 AM
To: Wurfel, Brad (DEQ)
Subject: flint water

Brad:
This was posted by the Virginia Tech researchers this morning.
Since a part of it speaks directly to MDEQ's involvement in the Flint water situation, I wanted to see if we can get a comment from you for an initial story that I hope to post in about two hours.
Thanks,
http://flintwaterstudy.org/2015/09/our-sampling-of-252-low-risk-homes-demonstrates-a-high-lead-in-water-risk-flint-should-be-failing-to-meet-the-epa-lead-and-copper-rule/

Ron Fonger
MLive Media Group
Reporter

mobile PPI
email rfonger1@mlive.com
address 540 S. Saginaw St. #101, Flint MI 48502

From: Wurfel, Brad (DEQ)
Sent: Wednesday, September 09, 2015 10:09 PM
To: Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Prysby, Mike (DEQ)
Cc: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: Congressman Kildee Letter on Lead in Flint Water
Attachments: ATT00001.htm; ATT00002.htm; ATT00003.htm; ATT00004.htm; 2015-09-09-Congressman Kildee Letter on Lead in Flint Water.pdf; ATT00005.htm

Liane, need your team's help. We'll need a draft response, and possibly a briefing for the director tomorrow. I'll find you in the morning. Thanks!
b

Sent from my iPhone

Begin forwarded message:

> **From:** "Dickinson, Jordan" <Jordan.Dickinson@mail.house.gov>
> **Date:** September 9, 2015 at 6:54:47 PM EDT
> **To:** "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>
> **Subject: FW: Congressman Kildee Letter on Lead in Flint Water**
>
> Hi Brad,
>
> Can you please make sure the attached letter is passed along to Director Wyant? I will forward along a physical copy in the mail.
>
> Thank you,
>
> **Jordan Dickinson**
> Legislative Assistant
> Congressman Dan Kildee (MI-05)
> 227 Cannon House Office Building
> Washington, D.C. 20515
> Phone: (202) 225-3611
> www.dankildee.house.gov

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

COMMITTEE ON
FINANCIAL SERVICES

SUBCOMMITTEE ON
HOUSING AND INSURANCE

SUBCOMMITTEE ON
MONETARY POLICY AND TRADE

SENIOR WHIP

DEMOCRATIC POLICY AND
COMMUNICATIONS COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515

September 9, 2015

WASHINGTON OFFICE

227 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

DISTRICT OFFICE

111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 238-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV
/REPDANKILDEE
@REPDANKILDEE

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?

- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?

- What, if any, of the recommendations has the EPA followed from the memorandum?

- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,

Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Wurfel, Brad (DEQ)
Sent: Thursday, September 10, 2015 2:20 PM
To: Shekter Smith, Liane (DNRE) (SHEKTERL@michigan.gov);Benzie, Richard (DEQ);Bush, Dennis (DEQ)
Cc: Wyant, Dan (WyantD@michigan.gov);Pallone, Maggie (DEQ)
Subject: FW: things in flint
Attachments: Flint Water Letter to DEQ 09102015.pdf

Well, here's the request from Flint Journal for today.
Working on responses. Call me if you would like to discuss any of this.
b

From: Ronald Fonger [mailto:RFONGER1@mlive.com]
Sent: Thursday, September 10, 2015 2:17 PM
To: Wurfel, Brad (DEQ)
Subject: things in flint

Brad:
I'm wrapping up a story on the lead issue that includes a comment from Howard Croft, Flint's DPW director.
He said the city did not act sooner on an optimization plan because it was acting on advice from the DEQ.
He said the city was aware of the issue of corrosion control as it began to use the Flint River but followed the guidance of DEQ.
Do you want to comment on why Flint officials were given that advice – or did it not happen that way?
Croft did say one concern about adding phosphates, for example, was that it could make the problem with bacteria in the water worse.
Also, do you want to comment on this statement from Marc Edwards:
"We have provided that information (about lead in water), and MDEQ did not," Edwards said. "In the days ahead, we will be exposing just some of the irresponsible actions of MDEQ relative to the lead sampling in Flint -- these actions are not consistent with federal law."
Finally, after I finish that story, I am starting work on another, based on the letter that I've attached from Flint's state legislative delegation to the DEQ.
Do you want to comment on that?
I need a response on the first questions first as I expect that story to post this afternoon but I will update it with your response as soon as I get it.
Call me if it's easier.
Thanks,

Ron Fonger
MLive Media Group
Reporter

mobile PPI
email rfonger1@mlive.com
address 540 S. Saginaw St. #101, Flint MI 48502

STATE OF MICHIGAN

September 10, 2015

Michigan Department of Environmental Quality
Executive Division
DEQ Director: Dan Wyant
P.O. Box 30473
Lansing, MI 48909-7973

Director Wyant,

In light of recently released findings by the American Civil Liberties Union, independent researchers and a troubling interim U.S. Environmental Protection Agency memo from June, we are requesting additional answers about the safety and treatment of the City of Flint's water.

Several disturbing points have been raised and we have a number of urgent questions, including:

- **When did the MDEQ become aware of the June 24, 2015, interim EPA memo and whom was it shared with?**
  - Which Flint city officials also received this information?
  - Why was the memo not immediately shared with the public?
  - What response did MDEQ have to the EPA concerns raised in the memo?
  - Were any actions taken by the MDEQ as a result of the issues mentioned in the memo?
  - What steps, if any, were taken to determine the validity of the Virginia Tech study?

- **Please explain why the pre-flushing method of sampling was used in this instance.**
  - Is it the same method that is applied to all sampling or does the agency have the discretion to decide?
  - Who is responsible for making the decision to pre-flush?
  - The EPA memo references the Lead Copper Rule requirement that systems greater than 50,000 users maintain "corrosion control treatment." As the regulator, why did the MDEQ choose not to enforce that standard?
  - The EPA recommends allowing water to rest for at least six hours, but no more than 12 hours, before taking a sample. On MDEQ's Web site, it suggests flushing the line for five minutes before the six-hour rest. How did the department arrive at this method?

- According to a July 9, 2015, article on DeadlineDetroit.com, "Scary: Leaded Water and One Flint Family's Toxic Nightmare,"

> *"'The EPA offered Flint officials the use of agency experts to help get the situation under control," said Del Toral, but added that, to his knowledge, the city has so far declined all help.*
>
> *LeeAnne Walters said that when she asked why city officials weren't taking the EPA's offer of assistance, she was told, "We don't need it."*

STATE OF MICHIGAN

Flint spokesman Lorenz, on the other hand, maintained "the city continues to work closely with the MDEQ and the EPA Regional Office."

- Who refused the EPA's offer of expert assistance and why?

- **Is the damage done to the pipes (as described in the EPA report) accurate?**
  - If yes, will damaged pipes continue to leach lead or will properly treated water safely reach consumers?
  - What is the plan and timeline to address it?

- **And most importantly, what can be done immediately to ensure safe, affordable drinking water for the citizens of Flint?**

Many of the decisions that led to the current situation occurred while a state-appointed manager was in control and MDEQ personnel were consulted about testing methods and how to address the situation. In addition, MDEQ also encouraged the method of water testing used by Flint officials. We believe that there is a heightened obligation by the state to make this right.

Due to the serious public health threats of this situation, we respectfully request a response to these matters by Monday, September 14, 2015.

We will do our best to accommodate meeting requests, if necessary, but would appreciate written responses to the above questions so that we can make informed decisions swiftly to address these serious concerns.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

cc:
U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Wurfel, Brad (DEQ)
Sent: Tuesday, September 15, 2015 10:22 AM
To: Muchmore, Dennis (GOV)
Cc: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: Re: Response

We will call you as soon as this meeting breaks at noon, chief.

Sent from my iPhone

On Sep 15, 2015, at 9:54 AM, Muchmore, Dennis (GOV) <muchmored@michigan.gov> wrote:

> Can you fill us in on your response?
>
> *DEQ*
> State DEQ to answer questions about Flint's water woes (Michigan Radio)
> "The head of Michigan's Department of Environmental Quality plans to respond Monday to a demand for answers about Flint's water woes. Last week, State Sen. Jim Ananich, D-Flint, state Rep. Sheldon Neeley, D-Flint, and state Rep. Phil Phelps, D-Flushing, sent a letter to DEQ director Dan Wyant demanding answers to a list of questions about the safety and treatment of Flint's drinking water."

From: Wurfel, Brad (DEQ)
Sent: Friday, September 18, 2015 8:17 AM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Busch, Stephen (DEQ)
Subject: Fwd: ACLU blog

Fyi

Sent from my iPhone

Begin forwarded message:

> **From:** Brad <brad.wurfel@gmail.com>
> **Date:** September 18, 2015 at 8:11:22 AM EDT
> **To:** Brad Wurfel <wurfelb@michigan.gov>
> **Subject: Fwd: An ACLU of Michigan investigation has found a stream of irregularities in Flint's water tests | Blogs | Detroit Metro Times**
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > http://m.metrotimes.com/Blogs/archives/2015/09/16/an-aclu-of-michigan-investigation-has-found-a-stream-of-irregularities-in-flints-water-tests
> >
> > Sent from my iPhone

From: Wurfel, Brad (DEQ)
Sent: Tuesday, September 29, 2015 9:07 AM
To: Wyant, Dan (DEQ)
Subject: Fwd: Kettering Host City-State-EPA press conference

Sent from my iPhone

Begin forwarded message:

> **From:** Dayne Walling <dwalling@cityofflint.com>
> **Date:** September 29, 2015 at 9:06:22 AM EDT
> **To:** Jack Stock <jstock@kettering.edu>, Thomas Ayers <tayers@kettering.edu>, Sdavies <sdavies@kettering.edu>, Robert McMahan <rmcmahan@kettering.edu>
> **Cc:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
> **Subject: Kettering Host City-State-EPA press conference**
>
> Dear Dr. McMahan and Kettering Team,
> We are in discussions with the Michigan Department of Environmental Quality and the US Environmental Protection Agency about a press conference on this Thursday to announce next steps in fixing Flint's water problems. Since it is a collaborative announcement we are looking for a community site and thought of Kettering as our first option.
>
> Would you be willing to please work with us on providing an appropriate space and AV/tech support? The MDEQ Communications Director Brad Wurfel (cc) is the point of contact.
>
> Please let us know given the very short timeline here and needless to say this is confidential at this point.
>
> Thanks, Dayne
> --
> Dayne Walling
> Mayor, City of Flint
> City Hall, 1101 S. Saginaw St.
> Flint, MI 48502
> 810-766-7346
> mayor@cityofflint.com
> www.cityofflint.com
> follow me on twitter at http://twitter.com/mayorwalling

From: Wurfel, Brad (DEQ)
Sent: Friday, October 09, 2015 2:18 PM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Fwd: state plans to ask all state schools to test for lead in drinking water?

Dan can you call Tracy Samilton? Number below.
b

Sent from my iPhone

Begin forwarded message:

> **From:** Tracy Samilton <samilton@umich.edu>
> **Date:** October 9, 2015 at 2:12:33 PM EDT
> **To:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
> **Subject: Re: state plans to ask all state schools to test for lead in drinking water?**
>
> Boss wants me to do something on this. You gotta minute to talk?
>
> Tracy Samilton
> Michigan Radio - NPR
> (734) 647-3479 desk/voicemail
> (734) 647-3482 newsroom
> PPI cell
> twitter: pubradiotracy
>
> On Fri, Oct 9, 2015 at 1:12 PM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:
>
> We discussed this yesterday with the Detroit News.
>
> The state is going to develop a lead education & awareness campaign for schools, encouraging them to test for lead in buildings old enough to warrant concern. The DEQ will make sure the state laboratory has capacity to prioritize samples from schools in its workload.
>
> If you need more, let me know.
>
> b

From: Tracy Samilton [mailto:samilton@umich.edu]
Sent: Friday, October 09, 2015 1:05 PM

To: Wurfel, Brad (DEQ)
Subject: state plans to ask all state schools to test for lead in drinking water?

true?

Tracy Samilton

Michigan Radio - NPR

(734) 647-3479 desk/voicemail

(734) 647-3482 newsroom

PPI cell

twitter: pubradiotracy

From: Wurfel, Brad (DEQ)
Sent: Sunday, October 18, 2015 1:47 PM
To: Wyant, Dan (DEQ)
Subject: Read.

Sent from my iPhone

Begin forwarded message:

> **From:** "Lynch, James" <jLynch@detroitnews.com>
> **Date:** October 18, 2015 at 12:27:10 PM EDT
> **To:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
> **Subject: Questions**
>
> Brad,
>
> After reviewing the emails made available through FOIA, there are several things that seem to need addressing.
>
> 1. It appears DEQ staffers have essentially downplayed or ignored warning signs from EPA's water expert, Miguel Deltoral. We have been aware of Mr. Deltoral's unofficial memo that went public in April. But his email dated two months earlier on Feb. 27, to Jennifer Crooks and Mike Prysby, he seems to lay out exactly what's come to pass…
>
> "(Particulate lead readings) Folks tend to discount these values as anomalies, but particulate lead release is a normal part of the corrosion process and it is universal (common) in all systems. It's just that it's not captured as often by the infrequent LCR sampling. If systems are pre-flushing the tap the night before collecting LCR compliance samples (MDEQ) still provides these instructions to public water systems) this clears particulate lead out of the plumbing and biases the results low by eliminating the highest lead values. If systems are pre-flushing and still finding particulate lead, the amount of particulate lead in the system can be higher than what is being detected using these "pre-flushed" first-draw samples.
>
> "My point on that was that people are exposed to the particulate lead on a daily basis, but the particulate lead is being flushed away before collecting compliance samples which provides false assurance to residents about the true lead levels in the water."
>
> Miguel goes on to address the optimal corrosion control situation in that same Feb 27 email.
>
> "If I remember correctly, Detroit is feeding (phosphate) for the lead/copper rule, but since Flint is no longer part of that interconnection, I was wondering what their OCCT was. They are required to have OCCT in place which is why I was asking what they were using."
>
> So what I'm seeing here is Miguel having raised these issues as far back as February. When unofficial April memo shows up, it's clear these issues still haven't been addressed.

Another email from the day before came from Jennifer Crooks at EPA which also highlights early concern about a lack of proper corrosion controls as well as the testing methods.
"The City can't just flush in advance of taking the compliance samples, they have to flush the lines on a regular basis."

Can you respond to the fact that it appears the state ignored or disregarded several warnings from EPA officials about testing deficiencies and insufficient corrosion controls?

2. Corrosion control, or the lack thereof, seems to be another major problem here. At the first of the recent press conferences, Dan Wyant said that lime was being used as a corrosion control method. But that is clearly contradicted by DEQ staff at several points. One of those is Pat Cook's email from April 24.
"Flint is currently not practicing corrosion control treatment at the (water treatment plant)."
This puts Dan's comments about the lime into question.

3. I gather from several exchanges in here that EPA and DEQ disagree over that the state's responsibility was in ensuring there was optimal corrosion control. One of the emails from July includes notes from a meeting of all the parties shows that EPA was asking why that hadn't been used from the outset, and the state's response was something along these lines:

""MDEQ explained that they did not treat the switch to Flint River water as a "new system," but as a new source. It is their understanding that two rounds of 6-month testing is still needed to characterize the water quality. They don't know what optimized is until those two rounds of six month monitoring are completed."

Under the lead copper rule, was the state required to have phosphate treatment in place? It appears here that the state chose to interpret the CLR as not requiring corrosion control. That seems like a highly dubious conclusion.

And after concerns were raised repeatedly beginning (at least as early as February), why was nothing done?

4. Another area of concern, one I mentioned on the phone, is the pace of response. And I understand that the lead copper rule lays out response times. But you have concerns being raised about lead by an EPA expert as far back as February. The state's response, in several instances, is that federal guidelines give us two six-month periods to collect samples, and then more time to submit an action plan, and then a year or more to enact that plan.

While those delays in making a change may be permitted under the law, given that we're talking about a possible public health crisis, why wasn't there more expediency? The responses in these emails appear to be without any sense of urgency at a time when Flint residents may have been drinking dangerous water.

5. At many points along the way, serious concerns are made about the state's testing methods. The Virginia Tech results were not the first time someone had indicated state testing – as approved by federal guidelines – might not be giving accurate readings.
Miguel's April memo reads: "I wanted to follow up on this because Flint has essentially not been using any corrosion control treatment since April 30, 2014 and they have (lead

service lines). Given the very high lead levels found at one home and the pre-flushing happening in Flint, I'm worried that the whole town may have much higher lead levels than the compliance results indicated, since they are using pre-flushing ahead of their compliance sampling."

From: Wurfel, Brad (DEQ)
Sent: Monday, October 19, 2015 4:19 PM
To: Krisztian, George (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ)
Subject: Fwd: PRESS RELEASE: Mayor Dayne Walling Response to MDEQ's Admission of Fault in Flint's Water Emergency
Attachments: Mayor Response to MDEQ Statement 10.19.15.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

From: Jason Lorenz <jlorenz@cityofflint.com>
Date: October 19, 2015 at 4:11:25 PM EDT
To: undisclosed-recipients:;
Subject: PRESS RELEASE: Mayor Dayne Walling Response to MDEQ's Admission of Fault in Flint's Water Emergency

For Immediate Release

Mayor Dayne Walling Response to MDEQ's Admission of Fault in Flint's Water Emergency

Flint, Michigan – October 19, 2015 – The following is a response from Mayor Dayne Walling regarding the MDEQ's statement admitting fault in the Flint water emergency:

Today, the Michigan Department of Environmental Quality (MDEQ) acknowledges its leading role in the decision-making that led to the contamination of Flint's drinking water. The people of Flint hear this admission and we demand that the State fully fix this problem they caused. While the State taking responsibility and the switch to Detroit water are steps in the right direction for Flint, actions speak louder than words. Now, the Governor and the State need to provide tens of millions of dollars to fix Flint's water and infrastructure as well as to provide for the families, children and schools affected. I will continue to push for changes and advocate for our City until every drop of water is 100% safe.

The MDEQ assured Flint that the switch was being handled safely and responsibly. We relied on the information from MDEQ, and clearly that information was wrong. My heart goes out to the children and families who are affected by this issue.

This morning our local Senator Jim Ananich said the following: "We do not know whether the misapplication of federal rules was intentional or due to negligence. That's why the Legislature needs to have a robust role in any investigation, and in ensuring those responsible for Flint's water crisis are held accountable." I applaud Senator Ananich's Statement and I urge the Governor and State Officials to take the necessary steps to ensure accountability so that this never happens again to any community.

–END–

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039 (Office)
PPI (Cell)
jlorenz@cityofflint.com



Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Jason Lorenz
Public Information Officer
Office: (810) 237-2039
Cell: PPI
jlorenz@cityofflint.com

For Immediate Release

Mayor Dayne Walling Response to MDEQ's Admission of Fault in Flint's Water Emergency

Flint, Michigan – October 19, 2015 – The following is a response from Mayor Dayne Walling regarding the MDEQ's statement admitting fault in the Flint water emergency:

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The MDEQ assured Flint that the switch was being handled safely and responsibly. We relied on the information from MDEQ, and clearly that information was wrong. My heart goes out to the children and families who are affected by this issue.

This morning our local Senator Jim Ananich said the following: "We do not know whether the misapplication of federal rules was intentional or due to negligence. That's why the Legislature needs to have a robust role in any investigation, and in ensuring those responsible for Flint's water crisis are held accountable." I applaud Senator Ananich's Statement and I urge the Governor and State Officials to take the necessary steps to ensure accountability so that this never happens again to any community.

–END–

From: Wurfel, Brad (DEQ)
Sent: Wednesday, November 04, 2015 2:10 PM
To: Krisztian, George (DEQ)
Subject: RE: HEADS-UP: Clarifications regarding the application of optimal corrosion control requirements of the lead and copper rule

I don't have the document. The atty opens to a blank screen … ?

From: Krisztian, George (DEQ)
Sent: Wednesday, November 04, 2015 1:56 PM
To: Wurfel, Brad (DEQ)
Subject: Fwd: HEADS-UP: Clarifications regarding the application of optimal corrosion control requirements of the lead and copper rule

Fyi

Sent from my iPhone

Begin forwarded message:

> **From:** "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Krisztian, George (DEQ)" <krisztiang@michigan.gov>
> **Subject: FW: HEADS-UP: Clarifications regarding the application of optimal corrosion control requirements of the lead and copper rule**
>
> I understand that Jim is not in the office today so I am sending this electronically to you in case you did receive it through other channels.
>
> Richard
>
> -----Original Message-----
> From: Hyde, Tinka [mailto:hyde.tinka@epa.gov]
> Sent: Wednesday, November 04, 2015 11:26 AM
> To: Willhite, Marcia; Dave.McMillan@illinois.gov; CLARK METTLER, MARTHA; Sygo, Jim (DEQ); Monosmith, Carrie (DEQ); Benzie, Richard (DEQ); randy.ellingboe@state.mn.us; mike.baker@epa.state.oh.us; jill.jonas@wisconsin.gov; Patrick.Stevens@Wisconsin.gov
> Cc: Henry, Timothy; Poy, Thomas
> Subject: HEADS-UP: Clarifications regarding the application of optimal corrosion control requirements of the lead and copper rule
>
> Hi All - Please see the attached memo which provides important clarifications regarding the application of the optimal corrosion control requirements of the lead and copper rule when a large water system ceases to purchase treated water and switches to a new drinking water source. If you have any questions or concerns related to this memo, please contact me or have your staff contact Tom Poy, Chief of the of the Ground Water and Drinking Water Branch at poy.thomas@epa.gov. Thanks

Tinka G. Hyde
Water Division Director
USEPA W-15J
77 W. Jackson Blvd
Chicago, IL 60604

Office: 312-886-9296
Cell: PPI

From: Wurfel, Brad (DEQ)
Sent: Friday, November 13, 2015 1:38 PM
To: Wyant, Dan (DEQ)
Subject: Fwd: Reporting on Flint.

Fyi.

Sent from my iPhone

Begin forwarded message:

> **From:** Jonathan Oosting <joosting@mlive.com>
> **Date:** November 13, 2015 at 1:28:42 PM EST
> **To:** "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
> **Subject: Re: Reporting on Flint.**
>
> Good deal, thanks for all the info Brad. Will keep you and this info in mind moving forward.
>
> Jonathan Oosting | MLive Media Group | 313.319.8559 | joosting@mlive.com
>
> ---
>
> **From:** <Wurfel>, "Brad (DEQ)" <WurfelB@michigan.gov>
> **Date:** Friday, November 13, 2015 at 1:17 PM
> **To:** Conde Nast <JOosting@MLive.com>
> **Cc:** "Murray, David (GOV)" <MurrayD1@michigan.gov>
> **Subject:** Reporting on Flint.
>
> Hey, Jonathan.
>
> Just a reminder that you can contact the DEQ as you develop these pieces, if you wanted to inform them or balance them out.
> Also wanted to make sure you've got the latest information on this issue.
> Enclosed is the EPA's final guidance on Lead and Copper rule, released nationally on Election Day, which notes the corrosion control provision in the federal law is written ambiguously and we actually didn't violate the protocol. It's not to say we'd do it that way again, given all we've learned about corrosion control in the past few months, but worth noting.
>
> Also, EPA's final version of the Del Toral memo, which was leaked as a draft in June and finalized / issued just after Election Day, which notes we're now implementing everything that was in the original draft memo from June.
>
> Your piece below implies DEQ is not currently using an EPA-approved water testing method. Not so. But we're taking a look at other protocol options as part of an internal department review. A bigger priority is making sure the city is actually sending its sample bottles to homes that actually have lead service lines or some plumbing

componentry that qualifies those residences as usable sites under the federal Lead and Copper rule. Enclosed our letter to Flint this week for your information.

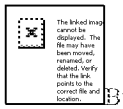
If you want updates on what's happening in the city, Check out the web page.
http://michigan.gov/deq/0,4561,7-135-3313_3675_73946---,00.html

And do feel free to call anytime. My numbers are below.
Thanks.
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

(Jonathan Oosting | MLive.com)

PrintEmail



By Jonathan Oosting | joosting@mlive.com MLive.com

Follow on Twitter

on November 12, 2015 at 2:55 PM, updated November 12, 2015 at 5:52 PM

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FLINT WATER

- County Health Department, state partner to educate Flint area on lead
- Four ways Flint failed in its testing for lead in water
- 'Water is a human right.' Democrats say with new bills addressing Flint crisis, Detroit shutoffs
- Documents show Flint filed false reports about testing for lead in water
- Flint water crisis: The key figures

All Stories

LANSING, MI — Flint mom Melissa Mays believes her three sons are starting to struggle in school because they drank contaminated city water, and she's worried the full effect of lead poisoning, which can cause irreversible brain damage, will not be known for years.

"Something that is supposed to nourish us and keep us alive was treated as a commodity — the quality was ignored, the signs were ignored," Mays said Thursday. "What we're seeing is a complete disregard for human life, human safety and the future of our children."

Mays, who has become a leading water activist in the midst of her city's public health crisis, joined lawmakers at the Michigan Capitol as they announced a new package of bills to address water quality and affordability issues in Flint and other parts of the state.

"There's a moral goal here," said Rep. Sheldon Neeley, D-Flint, urging the Snyder administration to consider the package.

Neeley plans to introduce legislation that would require the Michigan Department of Environmental Quality to collect water samples using federally-approved procedures. His bill would prohibit a sampling procedure known as "pre-flushing," which can lower lead level readings.

MDEQ has acknowledged it enforced the wrong federal standards for treating Flint water, and records recently obtained by The Flint Journal show the city also disregarded federal rules for seeking out homes with lead plumbing to test.

"Water is a human right" according to Rep. Julie Plawecki, D-Dearborn Heights, who is preparing to introduce legislation that would define it as such.

"It's hard to believe that in Michigan, the Great Lakes State, that water is not clean, affordable and accessible to everyone," she said, going on to acknowledge that her proposal is more conceptual than enforceable.

"Are there teeth behind this bill? Possibly not, but at least we're making a statement that everybody in Michigan has a right."

Flint Mom Melissa Mays Talks Drinking WaterAt the Michigan Capitol on November 12, 2015.

Other bills in the pending package, spearheaded by Democratic Reps. Stephanie Chang and LaTanya Garrett of Detroit, seek to limit the kind of large-scale water shutoffs that have effected thousands of residents in Detroit and Highland Park.

Detroit, which has moved forward with water shutoffs despite protests, has tens of thousands of residents who are behind on their bills. Highland Park is facing its own shutoff crisis caused, in part, by the city's own inconsistent water billing.

"What happened in our cities could happen in others," said Chang.

The legislation would require water utilities to disclose shut-off statistics online, require clearer notices about shutoffs, prohibit shutoffs for some vulnerable residents, provide more payment options for residents who fall behind and make illegal water reconnections a misdemeanor instead of felony.

"We are not saying that it is right to reconnect, but we need to go back and revisit why people are reconnecting water and reduce the sentence," said Garrett.

Lawmakers at Thursday's press conference hailed exclusively from the Democratic side of the aisle, but Rep. Ned Canfield, R-Sebewaing, is also expected to introduce a bill related to water bill frequency. Companion legislation is expected in the Senate as well.

Jonathan Oosting is a Capitol reporter for MLive Media Group. Email him, find him on Facebook or follow him on Twitter.

From: Wurfel, Brad (DEQ)
Sent: Monday, December 28, 2015 2:11 PM
To: Wyant, Dan (DEQ)
Subject: Fwd: FOR IMMEDIATE RELEASE: Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control

Sent from my iPhone

Begin forwarded message:

> **From:** Lindsey Smith <lmsmi@umich.edu>
> **Date:** December 28, 2015 at 1:45:13 PM EST
> **To:** "Wurfel, Brad (DEQ)" <wurfelb@michigan.gov>
> **Subject: Fwd: FOR IMMEDIATE RELEASE: Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control**
>
> Hi Brad,
>
> Not sure if they're just late to the party or sitting on this or what (it's dated Dec 23rd) but editors have deemed this worthy of a couple spot news headlines today. Let me know if you'd like to comment.
>
> Best~
>
> ---------- Forwarded message ----------
> From: **Angela Wittrock** <AWittrock@senate.michigan.gov>
> Date: Mon, Dec 28, 2015 at 1:01 PM
> Subject: FOR IMMEDIATE RELEASE: Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control
> To: Angela Wittrock <AWittrock@senate.michigan.gov>
>
> FOR IMMEDIATE RELEASE — Contact: Angela Wittrock
>
> December 28, 2015 — Phone: (517) 775-1430
>
> **Independent Review Confirms State Made Decision to Use Flint River, Failed to Ensure Corrosion Control**
>
> *Lawmakers Ananich, Neeley call for more answers, resources*

LANSING, Mich. — Senate Democratic Leader Jim Ananich (D–Flint) and State Representative Sheldon Neeley (D–Flint) responded today to an independent review that confirmed that Michigan's Department of Environmental Quality failed to ensure proper corrosion control was used to treat Flint River water and that the State was responsible for the decision to use the river as the City of Flint's primary drinking water source.

The letter from the State Auditor General was the initial response to questions raised by Sen. Ananich in October. The Auditor General is working on a more thorough review and expects to have additional information in the coming months.

"The Auditor General has provided an important piece of this puzzle and I'm sure the extended report they are working on will reveal additional information," Sen. Ananich said. "What's clear is that corrosion control should have been used and there are serious failings in our system that must be addressed. Between the FOIA emails released recently and these findings, it's obvious that legislative oversight is the best way to see how all of these pieces fit together. I expect holding hearings to be high on the agenda when the Legislature returns."

In response to the question about whether corrosion control treatment should have been maintained when the switch for the water source was made to the Flint River, the Auditor General letter concludes, "We believe that corrosion control treatment should have been maintained."

With regard to how the decision was made about using the Flint River as the primary drinking water source, the letter states, "Although the Flint City Council voted in March 2013 in support of moving to the KWA pipeline, the vote was silent on the use of Flint River water as a temporary drinking water source."

This is contrary to recent claims that somehow this local vote was in favor of using the river.

"This is another example of how the state failed initially, and continues to fail by not treating this situation like the emergency it is," Rep. Neeley said. "We need answers, we need action, and we need them sooner rather than later."

Sen. Ananich and Rep. Neeley have been calling for legislative hearings and a more aggressive response since the Flint water crisis began. They also have been working with local and federal officials on securing additional resources to make safe water available to all residents, and to combat the health impacts of the lead that has been consumed.

[*Editor's note: A copy of the Auditor General letter is available upon request.*]

###

Angela Wittrock
Press Secretary
Senate Minority Leader Jim Ananich
…
Boji Tower, Second Floor | Lansing, MI 48909-7536
P: 517.373.1339
C: PPI

Please sign up for our e-news at: Senatedems.com/Ananich

Facebook: jimananich | Twitter: @jimananich

--
Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, March 20, 2015 2:31 PM
To: Alexander, Richard (DEQ);Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Datema, Maggie (DEQ);Epkey, Amy (DEQ);Erickson, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Hellwig, Vince (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Feuerstein, Heather (DEQ);Flores, Benita (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Shaler, Karen (DEQ);Slater, Donna (DNR);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Edlin, Karen (DEQ);Patterson, Leigh (DEQ);Devereaux, Tracy Jo (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of March 16, 2015
Attachments: E-Clips 031615.pdf

DEQ e-clips

Week of March 16, 2015

BridgeMi.com: Enbridge oil pipes and the Straits of Mackinac: Too risky to ignore
http://bridgemi.com/2015/03/enbridge-oil-pipes-and-the-straits-of-mackinac-too-risky-to-ignore/

Detroit Free Press: Huge land deal for mining in U.P. to be approved
http://www.freep.com/story/news/local/2015/03/19/huge-land-deal-limestone-mining-approved/25057705/

Huffington Post: Detroit-Area Residents Demand Clean Air
http://www.huffingtonpost.com/mary-anne-hitt/detroit-area-residents-de_b_6863462.html

MLive: Saginaw to help Genesee County test new water treatment process
http://blog.mlive.com/saginawnews_impact/print.html?entry=/2015/03/genesee_county_water_treatment.html

Billionaire Matty Moroun needs a Detroit park for his new bridge to Canada
http://www.mlive.com/news/detroit/index.ssf/2015/03/detroiters_fight_once_again_to.html

Michigan Gov. Rick Snyder creates new energy agency
http://impact.mlive.com/lansing-news/print.html?entry=/2015/03/michigan_gov_rick_snyder_creat.html

DNR agrees on UP land swap deal for limestone mine
http://impact.mlive.com/lansing-news/print.html?entry=/2015/03/dnr_agrees_on_up_land_swap_dea.html

Midland Daily News: Mercury collection program continues in Michigan this year
http://www.ourmidland.com/news/dca444bc-ce41-11e4-ba44-ff19a45ea6e6.html

Monroe News: Summerfield bans waste disposal in wake of proposed injection well
http://www.monroenews.com/news/2015/mar/19/summerfield-bans-waste-disposal-wake-proposed-inje/

Petoskey News-Review: Stabenow vows to fight for Great Lakes funding
http://www.petoskeynews.com/featured-pnr/stabenow-vows-to-fight-for-great-lakes-funding/article_153f2452-9b52-5ca0-a8e7-892f0c95e6ee.html?mode=print

The News Herald: Hundreds speak out on air pollution, health problems near power plant
http://thenewsherald.com/articles/2015/03/16/news/doc55034ad58577f915492717.prt

The Wall Street Journal: Mining Revival Spurs Tensions Over Environment in Upper Midwest
http://www.wsj.com/articles/mining-revival-spurs-tensions-over-environment-in-upper-midwest-1426704372

Upper Michigans Source: Eagle Mine submits annual reports
http://www.uppermichiganssource.com/news/story.aspx?id=1179359#.VQni-6PD_bg

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700
Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of March 16, 2015

BridgeMi.com: Enbridge oil pipes and the Straits of Mackinac: Too risky to ignore
http://bridgemi.com/2015/03/enbridge-oil-pipes-and-the-straits-of-mackinac-too-risky-to-ignore/

Detroit Free Press: Huge land deal for mining in U.P. to be approved
http://www.freep.com/story/news/local/2015/03/19/huge-land-deal-limestone-mining-approved/25057705/

Huffington Post: Detroit-Area Residents Demand Clean Air
http://www.huffingtonpost.com/mary-anne-hitt/detroit-area-residents-de_b_6863462.html

MLive: Saginaw to help Genesee County test new water treatment process
http://blog.mlive.com/saginawnews_impact/print.html?entry=/2015/03/genesee_county_water_treatment.html

Billionaire Matty Moroun needs a Detroit park for his new bridge to Canada
http://www.mlive.com/news/detroit/index.ssf/2015/03/detroiters_fight_once_again_to.html

Michigan Gov. Rick Snyder creates new energy agency
http://impact.mlive.com/lansing-news/print.html?entry=/2015/03/michigan_gov_rick_snyder_creat.html

DNR agrees on UP land swap deal for limestone mine
http://impact.mlive.com/lansing-news/print.html?entry=/2015/03/dnr_agrees_on_up_land_swap_dea.html

Midland Daily News: Mercury collection program continues in Michigan this year
http://www.ourmidland.com/news/dca444bc-ce41-11e4-ba44-ff19a45ea6e6.html

Monroe News: Summerfield bans waste disposal in wake of proposed injection well
http://www.monroenews.com/news/2015/mar/19/summerfield-bans-waste-disposal-wake-proposed-inje/

Petoskey News-Review: Stabenow vows to fight for Great Lakes funding
http://www.petoskeynews.com/featured-pnr/stabenow-vows-to-fight-for-great-lakes-funding/article_153f2452-9b52-5ca0-a8e7-892f0c95e6ee.html?mode=print

The News Herald: Hundreds speak out on air pollution, health problems near power plant
http://thenewsherald.com/articles/2015/03/16/news/doc55034ad58577f915492717.prt

The Wall Street Journal: Mining Revival Spurs Tensions Over Environment in Upper Midwest
http://www.wsj.com/articles/mining-revival-spurs-tensions-over-environment-in-upper-midwest-1426704372

Upper Michigans Source: Eagle Mine submits annual reports
http://www.uppermichiganssource.com/news/story.aspx?id=1179359#.VQni-6PD_bg

From: Shaler, Karen (DEQ)
Sent: Wednesday, September 16, 2015 5:17 PM
To: Anderson, Madhu (DEQ);Copen, Leigh (DEQ);Feuerstein, Heather (DEQ);Howes, Sarah (DEQ);Pallone, Maggie (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: RE: FOIA Reply Due 9/25 - FW: 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/29/15 - extended
Attachments: 6422.pdf

Change of plans – Since we now know that this requester, Phil Phelps, is a State Representative, Maggie called his office today. This FOIA may end up being cancelled and the requested documents would instead be sent over to Rep. Phelps's office via our legislative office staff.

That being said, please give me a copy of your responsive documents (2-sided is still preferred) instead of an estimate of the number of pages. Unless we hear otherwise, the due date will still be September 25 as Susan Vorce had e-mailed Rep. Phelps on September 10 about a 10-day extension. Thanks!

From: Shaler, Karen (DEQ)
Sent: Thursday, September 10, 2015 12:34 PM
To: Anderson, Madhu (DEQ); Copen, Leigh (DEQ); Feuerstein, Heather (DEQ); Howes, Sarah (DEQ); Pallone, Maggie (DEQ); Sygo, Jim (DEQ); Thelen, Mary Beth (DEQ); Tommasulo, Karen (DEQ); Wurfel, Brad (DEQ); Wyant, Dan (DEQ)
Subject: FOIA Reply Due 9/25 - FW: 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/29/15 - extended
Importance: High

By Friday, September 25, please let me know whether or not you have responsive records for the subject FOIA regarding the city of Flint's source of water (see link to FOIA request, below). If you do have records, I'll need an estimate of the number of pages and how much time you spent searching for the records. Thanks!

From: DEQFOIA
Sent: Thursday, September 10, 2015 12:03 PM
To: Shaler, Karen (DEQ); DEQ-RMD-FOIA; DEQ-WRD-FOIA; Bishop, Susan (DEQ); Jesko, Roxanne (DEQ); Rennaker, Joanne (DEQ)
Subject: 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/29/15 - extended
Importance: High

The 10-day extension has been issued. The PDF has been corrected to reflect the new due date.

--Susan

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
517-284-6889 or 800-662-9278
deqfoia@michigan.gov

From: DEQFOIA
Sent: Tuesday, September 08, 2015 1:51 PM

To: Shaler, Karen (DEQ); DEQ-RMD-FOIA; DEQ-WRD-FOIA; Bishop, Susan (DEQ) (BISHOPS@michigan.gov); Jesko, Roxanne (DEQ); Rennaker, Joanne (DEQ)
Subject: 6422 - EXEC, ODWMA, WRD + Lansing - due: 9/15/15

2015FOIAs			
County	**DueDate**	**Divisions**	**Hyperlink**
Genesee	9/29/2015	EXEC, RMD, WRD	U:\Transfer\FOIAs\2015FOIAs\6400 thru 6499\6422.pdf

--Susan

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
517-284-6889 or 800-662-9278
deqfoia@michigan.gov

6/22-15
Exec, WRD
ODWMA
LDO
due 9-29-15

10-day

FOIA Coordinator
Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957
Phone: 800-662-9278

deqfoia@michigan.gov

Dear FOIA coordinator,

This letter is a request for records under the Freedom of Information Act, MCL 15.231 et seq.

The records I am requesting are:

1. All documents the Michigan Department of Environmental Quality, or its agents, has in its possession, including correspondence, related to any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.
2. All documents the Michigan Department of Environmental Quality, or its agents, has in its possession, including correspondence, related to any communications between the Michigan Department of Environmental Quality, or its agents, and the Michigan Department of Treasury, or its agents, regarding any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.
3. All documents the Michigan Department of Environmental Quality has in its possession, including correspondence, related to any communications between the Michigan Department of Environmental Quality, or its agents, and the Office of the Governor of the State of Michigan, or its agents, regarding any waivers, permits or applications to use the Flint River as a source for water and/or drinking water for the City of Flint or any other municipality or municipal entity.

I am enclosing a check in the amount of $50 as a good faith deposit to cover a portion or all of the cost of these items. If the amount exceeds $50, please contact me by phone at 810-223-7034, to discuss the balance and the basis for the amounts charged beyond $50. If the amount is less than $50 please refund the balance to this office.

Sincerely,

Phil Phelps
819 Main Street
Unit A
Flushing, MI 48433

DEQFOIA

From: Phillip Phelps <
Sent: Friday, September 04, 2015 4:53 PM
To: DEQFOIA
Subject: FOIA Request
Attachments: Phelps Mich Dept EQ FOIA Request Sept 4 2015.doc

Hello,
Please find the attached FOIA request. If you have any questions please feel free to contact me through the contact information provided in the attached FOIA request.

Thanks,
Phil

From: Paciorek, Josh (GOV)
Sent: Thursday, October 01, 2015 5:33 PM
To: Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Minicuci, Angela (DHHS);Eisner, Jennifer (DHHS);Hertel, Elizabeth (DHHS);Wurfel, Brad (DEQ);Wurfel, Sara (GOV);Murray, David (GOV);Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Lasher, Geralyn (DHHS)
Subject: RE: talking points
Attachments: FlintWater_ActionPlan_100115.pdf; FlintWater_Tips_100115.pdf

All,

Here are the latest 1-pagers/posters for tomorrow. The wording on the action plan reflect minor changes from Sara Wurfel.

Please let me know what needs to be revised/edited.

Thanks

Josh Paciorek
Social Media Manager | Governor Rick Snyder
O: 517-373-4845 | C: PPI
@JoshPaciorek

From: Tommasulo, Karen (DEQ)
Sent: Thursday, October 01, 2015 4:28 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Minicuci, Angela (DHHS) <MinicuciA@michigan.gov>; Eisner, Jennifer (DHHS) <EisnerJ@michigan.gov>; Hertel, Elizabeth (DHHS) <HertelE@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Wurfel, Sara (GOV) <Wurfels@michigan.gov>; Murray, David (GOV) <MurrayD1@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Paciorek, Josh (GOV) <Pacioreki@michigan.gov>; Lasher, Geralyn (DHHS) <lasherg@michigan.gov>
Subject: talking points

Here's the talking points we've been working from. Feel free to add DHHS' info.

Karen Tommasulo
Public Information Officer
Michigan Department of Environmental Quality
517-284-6716 | 517-599-5733
tommasulok@michigan.gov

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- The Action Plan -

- Immediately test all Flint public schools to ensure that **drinking water is safe.** Testing will also be available at no cost to any other school in Flint.
- **Expand health exposure testing** of individual residences.
- **Offer water testing** at no cost to Flint residents to assure water is safe.
- **Expedite optimizing corrosion controls** in the Flint drinking water system.
- **Assemble the "Safe Drinking Water Technical Advisory Committee"** to ensure the best technology, practices and science are being utilized, and add an expert from the EPA's Office of Research and Development to the group.
- **Accelerate water system improvements** to address replacement of lead service lines.
- Expedite completion of **Karegnondi Water Authority.**
- Gov. Rick Snyder names Dr. Eden Wells as the Flint Drinking Water Public Health Advisor to ensure safe drinking water.
- **Provide water filters** to residents of Flint.
- Expand a comprehensive lead education initiative.

To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1

Visit www.mi.gov/FlintWater for more information

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- Tips for Flint Residents -

Lead plumbing is common in homes built prior to 1986, and anyone in the state with lead pipes in their home can take some extra precautions to minimize lead in their drinking water.

1. Get your water tested at no cost to ensure water is safe. **To get your water tested**, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.

2. To ensure safe drinking water, you can also get a free filter. Please visit **mi.gov/FlintWater** to find where you can get a free filter.

3. If tests finds lead or accumulates in drinking water from plumbing, and so **flushing your pipes prior to using them** can minimize your exposure.

To flush your pipes, run the water until it gets as cold as it will get. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 3 minutes if you have not used any water in hours.

If the City of Flint, **running the water for 5 minutes costs between 3 and 17 cents.**

4. Additionally, more lead gets into hot water than cold water. **Use only cold water for drinking, cooking and making baby formula.**

To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1

Visit **www.mi.gov/FlintWater** for more information

From: Paciorek, Josh (GOV)
Sent: Thursday, October 01, 2015 6:23 PM
To: Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Minicuci, Angela (DHHS);Eisner, Jennifer (DHHS);Hertel, Elizabeth (DHHS);Wurfel, Brad (DEQ);Wurfel, Sara (GOV);Murray, David (GOV);Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Lasher, Geralyn (DHHS)
Subject: RE: talking points
Attachments: FlintWater_ActionPlan_100115.pdf; FlintWater_Tips_100115.pdf

All,

Here are the revised versions with edits from Karen, Dave and Sara. The wording on the action plan matches the wording in the release.

Please let me know what needs to be revised/edited.

Thanks,

Josh Paciorek
Social Media Manager | Governor Rick Snyder
O: 517-373-4845 | C: PPI
@JoshPaciorek

From: Paciorek, Josh (GOV)
Sent: Thursday, October 01, 2015 5:33 PM
To: Tommasulo, Karen (DEQ) <TommasuloK@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Minicuci, Angela (DCH) <MinicuciA@michigan.gov>; Eisner, Jennifer (DCH) <EisnerJ@michigan.gov>; Hertel, Elizabeth (DCH) <HertelE@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Wurfel, Sara (GOV) <Wurfels@michigan.gov>; Murray, David (GOV) <MurrayD1@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Lasher, Geralyn (DCH) <lasherg@michigan.gov>
Subject: RE: talking points

All,

Here are the latest 1-pagers/posters for tomorrow. The wording on the action plan reflect minor changes from Sara Wurfel.

Please let me know what needs to be revised/edited.

Thanks

Josh Paciorek
Social Media Manager | Governor Rick Snyder
O: 517-373-4845 | C: PPI
@JoshPaciorek

From: Tommasulo, Karen (DEQ)
Sent: Thursday, October 01, 2015 4:28 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Minicuci, Angela (DHHS) <MinicuciA@michigan.gov>; Eisner, Jennifer (DHHS) <EisnerJ@michigan.gov>; Hertel, Elizabeth (DHHS) <HertelE@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Wurfel, Sara (GOV) <Wurfels@michigan.gov>; Murray, David (GOV) <MurrayD1@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Paciorek, Josh (GOV) <Paciorekj@michigan.gov>; Lasher, Geralyn (DHHS) <lasherg@michigan.gov>
Subject: talking points

Here's the talking points we've been working from. Feel free to add DHHS' info.

Karen Tommasulo
Public Information Officer
Michigan Department of Environmental Quality
517-284-6716 | 517-599-5733
tommasulok@michigan.gov

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- The Action Plan -

- Testing in Flint public schools immediately to ensure that **drinking water is safe**, with testing also available at no cost to any other school in Flint.
- **Expanding health exposure testing** of individual homes.
- **Offering free water testing** to Flint residents to assure their drinking water is safe.
- **Accelerating an optimization of corrosion controls** in the Flint drinking water system.
- **Expanding a Safe Drinking Water Technical Advisory Committee** to ensure the best technology, practices and science are being followed by adding an expert from the Environmental Protection Agency's Office of Research and Development to the group.
- **Accelerate water system improvements** to address replacing lead service lines.
- Expediting the completion of the **Karegnondi Water Authority** pipeline.
- Naming Dr. Eden Wells, chief medical executive for the Michigan Department of Health and Human Services, as the **Flint drinking water public health adviser**.
- **Providing water filters** to residents with concerns or who are included in state assistance programs.
- Creating a **comprehensive lead education program** to make sure residents have detailed information about how to protect themselves and their homes.

To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit www.mi.gov/FlintWater for more information

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- Tips for Flint Residents -

Lead plumbing is common in homes built prior to 1986, and anyone in the state with lead pipes in their home can take some extra precautions to minimize lead in their drinking water.

1. Get your water tested at no cost to ensure water is safe. **To get your water tested**, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.

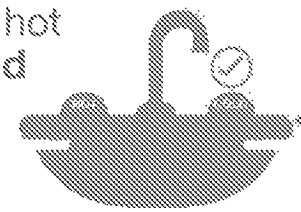
2. To ensure safe drinking water, you can also get a free filter. Please visit **mi.gov/FlintWater** to find where you can get a free filter.

3. If faucets have not been used for an extended period of time, lead particles in drinking water from plumbing can be elevated. **Flushing your pipes prior to using them** can minimize your exposure.

To flush your pipes, run the water until it gets as cold as it will get. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 3 minutes if you have not used any water in hours.

In the City of Flint, **running the water for 5 minutes costs between 3 and 15 cents.**

4. Additionally, more lead gets into hot water than cold water. **Use only cold water for drinking, cooking and making baby formula.**



To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit www.mi.gov/FlintWater for more information

From: Shaler, Karen (DEQ)
Sent: Wednesday, October 07, 2015 9:36 AM
To: Feuerstein, Heather (DEQ);Howes, Sarah (DEQ);Krisztian, George (DEQ);Pallone, Maggie (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: FYI Only - FW: 0053 - EXEC/RMD plus Lansing, Due: 10/27/15 - 10 Day Ext.
Attachments: 0053.pdf

FYI only

From: Shaler, Karen (DEQ)
Sent: Wednesday, October 07, 2015 8:57 AM
To: DEQFOIA; DEQ-RMD-FOIA; Rennaker, Joanne (DEQ); Vorce, Susan (DEQ)
Subject: RE: 0053 - EXEC/RMD plus Lansing, Due: 10/27/15 - 10 Day Ext.

This FOIA is specifically asking for ODWMA Lansing District staff records. The Executive Division shouldn't have been assigned this FOIA, but I will forward it to our staff as an FYI. Thanks.

From: DEQFOIA
Sent: Wednesday, October 07, 2015 8:44 AM
To: Shaler, Karen (DEQ); DEQ-RMD-FOIA; Rennaker, Joanne (DEQ)
Subject: 0053 - EXEC/RMD plus Lansing, Due: 10/27/15 - 10 Day Ext.

2016FOIAs			
County	**DueDate**	**Divisions**	**Hyperlink**
Genesee	10/27/2015	EXEC, RMD	U:\Transfer\FOIAs\2016FOIAs\0001 thru 0099\0053.pdf

Resending with a new due date – 10 day ext. added.

Rose Woosley
OEA-EAC
Department of Environmental Quality
517-284-6890 / 800-662-9278
Fax: 517-241-0858
Deqfoia@michigan.gov

Waiver denied RW

Woosley, Rosemary (DEQ)

0053-16
RMD - Exec
Lansing
Due: 10-27-15

From: Ronald Fonger <RFONGER1@mlive.com>
Sent: Monday, October 05, 2015 11:28 AM
To: DEQFOIA
Subject: foia from The Flint Journal/MLive

FOIA Coordinator
Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957
Oct. 5, 2015

10 DAY EXT RW

Please consider this a request under the Freedom of Information Act for the following:

- Copies of all correspondence, including email, from any of the following Michigan Department of Environmental Quality employees – Adam Rosenthal, Mike Prysby and Stephen Busch -- to any of the following city of Flint employees -- Brent Wright, Mike Glasgow, Howard Croft or Doughtery Johnson -- regarding Flint water from Jan. 1, 2014, to Sept. 21, 2015.
- Copies of all correspondence, including email, from any of the following city of Flint employees -- Brent Wright, Mike Glasgow, Howard Croft or Doughtery Johnson – to any of the following MDEQ employees -- Adam Rosenthal, Mike Prysby and Stephen Busch – regarding Flint water from Jan. 1, 2014, until Sept. 21, 2015

Because the condition of Flint's water is a matter of extreme public concern and this information is of timely value, I ask to receive this information electronically, that any fees associated with this request be waived, and that this request be expedited if at all possible.

Should my request not be granted and should the cost of providing this information exceed $50, I ask that you contact me immediately before proceeding.

If you have question about this request, please contact me immediately as well.
Thank-you in advance for your help in this matter of public concern.

Ron Fonger
MLive Media Group
Reporter

mobile PPI
email rfonger1@mlive.com
address 540 S. Saginaw St. #101, Flint MI 48502

From: DEQ-LogLetter
Sent: Monday, October 12, 2015 10:53 AM
To: Devereaux, Tracy Jo (DEQ)
Cc: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Krisztian, George (DEQ);Shekter Smith, Liane (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Feuerstein, Heather (DEQ)
Subject: GOV00039 Novitsky / Architect who invented a water purifier
Attachments: ODWMA 15 GOV00039l Novitsky.pdf

Assigned to ODWMA

Letter Buckslip

12-Oct-15

ID:	**GOV00039**
Date of letter:	10/9/2015
Date received:	10/9/2015
Date due:	10/15/2015
Reply date:	
Last name:	Novitsky
First name:	Joseph
Organization:	
Subject:	Architect who invented a water purifier
Reply to:	
Author:	
Owner:	OLSZEWSKIR

Deputy Director _____
Deputy's Mgmt. Asst. _____
Director's Office Staff _____
Division/Office Chief _____
Division/Office Chief's Mgmt. Asst. _____
Prepared by: _____
_____
Division/Office _____
Exec. Div. File No.: _____
☐ Delogged

Action	Action Date	Due Date	Entity	Signature	Owner	CCs
Assigned 1	10/12/2015	1/15/2015	ODWMA	CHF	OLSZEWSKIR	Director/Thelen Sygo/Shaler Krisztian Shekter Smith Wurfel Pallone/Feuerstein

Comments: Original to ODWMA

GOV00039

Thelen, Mary Beth (DEQ)

From: Laura Stoken <stokenl@michigan.gov>
Sent: Friday, October 09, 2015 3:43 PM
To: Thelen, Mary Beth (DEQ)
Subject: Action Item [Novitsky] - Constituent Case Referral

Hello -

Governor Snyder's office has received a constituent inquiry from Joseph Novitsky .

To help us track the correspondence, we've assigned this inquiry the unique reference number of S290647.

I would appreciate a copy of correspondence exchanged with this constituent on Governor Snyder's behalf, but I understand you may be limited by law in what you can share. Please let me know if you are unable to follow up with this constituent or if you believe I have made a mistake in referring this to your attention.

As always, please do not hesitate to contact me with any questions or concerns. Thank you for your assistance.

Laura Stoken
Office of the Governor
O: 517-335-7858

CASE OPEN DATE: 10/9/2015 3:28 PM

NAME: Joseph Novitsky
ADDRESS:
CITY/STATE/ZIP:
E-MAIL:
TELEPHONE:

CONSTITUENT INQUIRY: Folks - I am an architect that invented a water purifier that is THE best in the world, patent pending and insured. We hope to help the folks in Flint and Saginaw. We can filter the lead and arsenic cheaper than anyone in the world. www.Merlinecosolutions.com.
We would like to set up an emergency station for "free" purified water and then also sales for a permanent application until the new public water supply is finished. Can you help?
Thanks, Joe

From: Shaler, Karen (DEQ)
Sent: Tuesday, October 13, 2015 4:23 PM
To: Feuerstein, Heather (DEQ);Howes, Sarah (DEQ);Krisztian, George (DEQ);Pallone, Maggie (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: FYI Only - FW: 0215 - ODWMA + Lansing - due: 10/20/15
Attachments: 0215.pdf

FYI only, as Susan Vorce said this FOIA was actually assigned only to ODWMA and Lansing District.

From: DEQFOIA
Sent: Tuesday, October 13, 2015 2:46 PM
To: Rennaker, Joanne (DEQ); Shaler, Karen (DEQ); DEQ-RMD-FOIA
Subject: 0215 - ODWMA + Lansing - due: 10/20/15

2016FOIAs			
County	**DueDate**	**Divisions**	**Hyperlink**
Genesee	10/20/2015	RMD	U:\Transfer\FOIAs\2016FOIAs\0200 thru 0299\0215.pdf

Karen – FYI only. Please distribute as appropriate.

--Susan

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
517-284-6889 or 800-662-9278
deqfoia@michigan.gov

215-16
EXEC, ODWMA
Lansing
due 10-20-15

DEQFOIA

From: Valdemar Washington <vwashington@settlemate.com>
Sent: Monday, October 12, 2015 12:44 PM
To: DEQFOIA
Subject: FOIA Request

To the FOIA Coordinator MDEQ:

Please provide me with a complete copy of the following document:

Analysis of the Flint River as a Permanent Water Supply for the City of Flint, July 2011

I understand that there are charges for providing the requested document and I hereby agree to pay those charges either at the time of production or in advance of production. Please contact me via email to supply the document - in other words a PDF will be fine I do not need a hard copy. Thank you in advance for your anticipated cooperation with my request.

Val Washington

SETTLEmate, ® INC.

Valdemar Washington,
Chief Facilitator
SETTLEmate® Inc.
718 Beach Street
P.O. Box 187
Flint, MI 48501-0187
phone 810.407.6868
fax 810.265.7315
vwashington@settlemate.com

Confidential: The information set forth in and accompanying this transmittal is confidential and protected by law. It is intended for, and should only be used by, the individual or entity named above. If you are not the intended recipient or an authorized agent or employee of the intended recipient able to deliver it to such person, you are notified that any disclosure, copying, distribution or use of the attached information is strictly prohibited. If you have received this transmission by error, please contact the person identified above immediately (e-mail vwashington@settlemate.com) and destroy this transmission. Thank you for your cooperation.

From: Shaler, Karen (DEQ)
Sent: Wednesday, November 04, 2015 6:06 PM
To: Feuerstein, Heather (DEQ);Howes, Sarah (DEQ);Krisztian, George (DEQ);Pallone, Maggie (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: FOIA Reply Due 11/20 - FW: 0609 - RMD/EXEC plus Lansing, Due: 11/24/15 - 10 day ext. issued.
Attachments: 0609.pdf

By Friday, November 20, please let me know whether or not you have responsive records for the attached FOIA request. If you do have records, I'll need an estimate of the number of pages and how much time you spent searching for the records. Thanks!

From: DEQFOIA
Sent: Wednesday, November 04, 2015 11:40 AM
To: DEQ-RMD-FOIA; Rennaker, Joanne (DEQ); Shaler, Karen (DEQ)
Subject: 0609 - RMD/EXEC plus Lansing, Due: 11/24/15 - 10 day ext. issued.

2016FOIAs			
County	**DueDate**	**Divisions**	**Hyperlink**
Genesee	11/24/2015	RMD, EXEC	U:\Transfer\FOIAs\2016FOIAs\0600 thru 0699\0609.pdf

Sorry this was delayed. I was off sick yesterday.

Rose Woosley
OEA-EAC
Department of Environmental Quality
517-284-6890 / 800-662-9278
Fax: 517-241-0858
Deqfoia@michigan.gov

FAROUGH & ASSOCIATES
communications · strategy · public relations

October 23, 2015

0609-16
RMD-EXEC
Lansing
Due: 11-24-15

FEE WAIVER DENIED
RW

FOIA Coordinator
Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957

To Whom It May Concern:

Under the Michigan Freedom of Information Act § 15.231 et seq., I am requesting an opportunity to inspect or obtain copies of public records, created between January 1, 2011 and October 23, 2015, in paper or electronic form, of:

(1) any documents containing information regarding the water testing standards and protocols used to test the community water supply in Flint, including but not limited to those standards or protocols used to comply with the EPA's Community Water Supply Program and the Michigan Safe Drinking Water Act;

(2) any documents containing information regarding the DEQ's efforts to comply with the EPA's Lead and Copper Rule with respect to the community water supply in Flint, including but not limited to information regarding corrosion control efforts, and sampling or testing protocols or instructions sent by DEQ to local water system officials or employees; and

(3) any correspondence with the EPA regarding the DEQ's monitoring, testing, or treatment of the community water supply in Flint, including but not limited to information regarding water testing standards or protocols used to test the community water supply, and efforts to comply with the EPA's Lead and Copper Rule.

The Michigan Freedom of Information Act requires a response to this request within five days. If access to the records I am requesting will take longer than this amount of time, please contact me with information about when I might expect copies or the ability to inspect the requested records.

If you deny any or all of this request, please cite each specific exemption you feel justifies the refusal to release the information and notify me of the appeal procedures available to me under the law.

I request a waiver of all fees as disclosure of the information sought is in the public interest.

Sincerely,

John VanDeventer
Farough & Associates, LLC
1000 S. Washington Ave. Ste. 101
Lansing, MI 48910
(517) 862-4897
vandev10@gmail.com

RECEIVED
OCT 29 2015
Office of Environmental Assistance

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, December 10, 2015 8:27 PM
To: Anderson, Madhu (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Sygo, Jim (DEQ);Krisztian, George (DEQ);Shekter Smith, Liane (DEQ);Wyant, Dan (DEQ)
Cc: Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ);Devereaux, Tracy Jo (DEQ);Feuerstein, Heather (DEQ)
Subject: FW: Status Update Regarding Petition for Emergency Action under the Safe Drinking Water Act
Attachments: Status Update on SDWA Petition.pdf

FYI as needed.

Karen, I will place a copy also in the 2-2 EPA File.

Mary Beth (on Director's email)

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Hedman, Susan [mailto:hedman.susan@epa.gov]
Sent: Thursday, December 10, 2015 7:37 PM
To: Wyant, Dan (DEQ)
Subject: FW: Status Update Regarding Petition for Emergency Action under the Safe Drinking Water Act

Hi Dan,

FYI -- earlier today we issued the attached status update on the SDWA petition that was filed by NRDC et al. in October.

Happy Holidays,

Susan

From: Nelson, Leverett
Sent: Thursday, December 10, 2015 4:38 PM
To: dchaudhary@nrdc.org
Cc: Hedman, Susan <hedman.susan@epa.gov>
Subject: Status Update Regarding Petition for Emergency Action under the Safe Drinking Water Act

Dear Ms. Chaudhary:

I am sending this message on behalf of EPA Regional Administrator Susan Hedman, who today issued the attached letter containing a status update regarding the Petition for Emergency Action under the Safe Drinking Water Act filed by NRDC and others.

Thank you.

-Rett Nelson

T. Leverett Nelson
Regional Counsel
U.S. EPA, Region 5
Chicago, IL
Tel.: 312-886-6666

United States Environmental Protection Agency
Regional Administrator
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

DEC 1 0 2015

Ms. Dimple Chaudhary
Natural Resources Defense Council
1152 15th Street, Suite 300
Washington, D.C. 20005

RE: Petition for Emergency Action under the Safe Drinking Water Act

Dear Ms. Chaudary:

I am writing to provide a status update regarding the Safe Drinking Water Act petition that you filed on behalf of several organizations concerned about lead levels in tap water in Flint, Michigan. Since the petition was filed on October 1, 2015, the State of Michigan and the City of Flint have taken a number of steps to address those concerns:

10/2/15	The Michigan Department of Environmental Quality and the Michigan Department of Health and Human Services announced a plan to accelerate Flint water system improvements, to expand water testing and health exposure testing in Flint, and to provide comprehensive lead education and free water filters to Flint residents. www.mi.gov/flintwater
10/7/15	The City of Flint's Technical Advisory Committee recommended implementation of corrosion control treatment and recommended that Flint reconnect to the Detroit drinking water system, now operated by the Great Lakes Water Authority.
10/8/15	The Michigan Governor and Mayor of Flint announced that Flint would connect to the Great Lakes Water Authority.
10/16/15	The Great Lakes Water Authority began supplying water treated with orthophosphate to the City of Flint.
12/9/15	The City of Flint began feeding additional orthophosphate to optimize corrosion control in the Flint water system.

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (100% Post-Consumer)

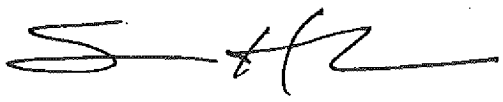
In light of the actions that the State and the City have taken during the past several weeks, EPA could arguably conclude that your petition fails to meet the jurisdictional prerequisites set forth in Section 1431 of the Safe Drinking Water Act. However, EPA has instead decided to defer action on the petition until such time as the Agency determines that corrosion control treatment is fully optimized for the Flint system.

The U.S. Environmental Protection Agency has established a Flint Safe Drinking Water Task Force that is working closely with the State of Michigan and the City of Flint to develop and implement a corrosion control treatment plan. The Task Force is providing technical assistance to the State and City to optimize corrosion control treatment for water being supplied by the Great Lakes Water Authority and to maintain optimized corrosion control treatment during the transition to water supplied by the Karegnondi Water Authority in mid-2016. Information about the Task Force is available at: http://www2.epa.gov/mi/flint-safe-drinking-water-task-force.

EPA is also conducting an audit of the Michigan drinking water program. The audit is examining the Michigan Department of Environmental Quality's implementation of the Safe Drinking Water Act and related rules on lead and copper, total coliform, nitrates and groundwater. The audit report will be published in 2016.

Should you have any questions about this letter, please contact the EPA Region 5 Regional Counsel, Leverett Nelson at nelson.leverett@epa.gov.

Sincerely,



Susan Hedman
Regional Administrator

From:	Wurfel, Sara (GOV)
Sent:	Thursday, October 01, 2015 10:00 PM
To:	Wyant, Dan (DEQ);Lyon, Nick (DHHS);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Lasher, Geralyn (DHHS)
Cc:	Paciorek, Josh (GOV);Muchmore, Dennis (GOV);Hollins, Harvey (GOV);Murray, David (GOV)
Subject:	Fwd: FlintWater_ActionPlan_100115 - annotated - flattened.pdf
Attachments:	FlintWater_ActionPlan_100115 - annotated - flattened.pdf; ATT00001.htm

Hi all - attached are the Gov's edits to the order of items in the action plan.

I know we had a robust discussion about these today and everyone felt pretty deliberative and flowed, but please review and let us know if anyone has any major heartburn. Otherwise, this is what will go with and change news release to match. TPs can probably stay in order originally for press conference to maintain flow of Dan, Nick, et al.

These have to be to printer by 7 am tomorrow am in order to get done in time for press conference.

Thx much,
SW

Sent from my iPhone

Begin forwarded message:
FlintWater_ActionPlan_100115 - annotated - flattened.pdf

TAKING ACTION ON FLINT WATER

www.mi.gov/FlintWater

- The Action Plan -

- Testing in Flint public schools immediately to ensure that **drinking water is safe**, with testing also available at no cost to any other school in Flint.
- **Expanding health exposure testing** of individual homes.
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- Naming Dr. Eden Wells, chief medical executive for the Michigan Department of Health and Human Services, as the **Flint drinking water public health adviser**.
- **Providing water filters** to residents with concerns or who are included in state assistance programs.
- Creating a **comprehensive lead education program** to make sure residents have detailed information about how to protect themselves and their homes.

To get your water tested for free, please call the city of Flint Water Plant at (810) 787-6537 and then press 1.
You can also email flintwater@cityofflint.com

Visit www.mi.gov/FlintWater for more information

This Document is a Non-Responsive Attachment.

From: Wurfel, Brad (DEQ)
Sent: Monday, December 28, 2015 2:45 PM
To: Wyant, Dan (DEQ)
Subject: Fwd: statement from Ananich

Sent from my iPhone

Begin forwarded message:

> **From:** Danielle Emerson <demerson@gongwer.com>
> **Date:** December 28, 2015 at 2:30:08 PM EST
> **To:** <wurfelb@michigan.gov>
> **Subject: statement from Ananich**
> **Reply-To:** <demerson@gongwer.com>
>
> Also while I've got you, if you care to respond to this statement by Senator Ananich (since we're running his year-end story today):
>
> "The administration still, I think, seems to lack the sense of urgency that I expect, but they've done some positive steps in the right direction. They still have folks, Brad Wurfel for one, who are still making statements that aren't really true, I think, to the public. You can't say it's the faucets in the school. If it wasn't for the corrosive, poisonous water, we wouldn't have a problem. It's another example of trying to make it sound like it wasn't their fault as opposed to just fixing the problem."
>
> …That should be all for today. Thanks

This email has been checked for viruses by Avast antivirus software.
www.avast.com

Subject: Fwd: RDS - REMARKS (AHeaton) Press Conference Re: Flint Water
Location: Mott Foundation Conference Center, 503 S. Saginaw, Flint

Start: Thu 10/8/2015 10:00 AM
End: Thu 10/8/2015 10:35 AM

Recurrence: (none)

Meeting Status: Accepted

Organizer: GovCalendar

Sent from my iPhone

Begin forwarded message:

From: "GovCalendar" <GovCalendar@michigan.gov>
To: "Agen, Jarrod (GOV)" <AgenJ@michigan.gov>, "Biehl, Laura (GOV)" <BiehlL@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>, "Clayton, Stacie (GOV)" <claytons3@michigan.gov>, "Lyon, Nick (DHHS)" <LyonN2@michigan.gov>, "Grijalva, Nancy (DHHS)" <GrijalvaN@michigan.gov>
Subject: RDS - REMARKS (AHeaton) Press Conference Re: Flint Water

Purpose: Press conference regarding Flint water

Program Participants:
Flint Mayor Dayne Walling
DEQ Director Dan Wyant
DHHS Director Nick Lyon
Dr. Eden Wells, DHHS
Ridgeway White, Mott Foundation
Harvey Hollins

Non-Speaking Invitees: (all attendance unconfirmed)
Sen. Jim Ananich
Rep. Tim Greimel
Rep. Phil Phelps
Rep. Sheldon Neely
Flint City Councilmembers
Faith Based Community members
U of M Flint Chancellor Susan Borrego (RDS talked to 10/7/15 at the Higher Ed Summit)
Amy Hovey, Staff of Congressman Dan Kildee
Jamie Gaskin, CEO of Genesee County United Way
Tim Herman, CEO of Flint and Genesee Chamber of Commerce

Brian Larkin, Flint and Genesee Chamber of Commerce (fmr. EO staff)
Kathryn Thomas, VP of Communications for Mott Foundation
Neal Hegarty, VP of Programs for Mott Foundation
Kimberly Roberson, Director of Flint Area Grantmaking Program for Mott Foundation

Agenda:

10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon brief comments, introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium (SW to moderate)
10:35 AM	Event concludes; Governor departs

OPEN Press

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
  - All Michigan residents need access to safe, clean water
- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.
- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
  - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
- What you are seeing here today is a community coming together to work toward solving a problem.
  - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
  - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Attachments:

1. Briefing
2. FAQs for Media Q&As
3. Press Release

Staff/Detail
Venue POC: Kathryn Thomas (mobile?) PPI
Security POC: Phil Snyder (mobile PPI
Advance: CLU


Briefing.pdf

ATT00001.htm

FAQs for Media QAs.pdf

ATT00002.htm

Press Release.pdf

ATT00003.htm

Comms: All


ATT00004.htm

Briefing: Flint Water System Press Conference
Thursday, Oct. 8, 2015
Mott Foundation/Commerce Center Building Ground Floor
519 S. Saginaw St., Flint
Communications: Sara Wurfel, 517-599-3470, wurfels@michigan.gov
Dave Murray, 517-449-8343, murrayd1@michigan.gov

Purpose:

We're announcing the decision to reconnect Flint to the Detroit Water and Sewerage Department, a collaborative effort between the state government, Flint city government and the Mott Foundation.

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water.

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Agenda:

9:00 AM - 9:45 AM	Gov meets with Mayor Walling in [Room 1]
9:45 AM – 10:00 AM	Pre-Brief in [Room 2]
10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium
10:35 AM	Event concludes; Governor departs

Attendees: Roughly 20 in audience

Susan	Borrego	Chancellor, U of M Flint
Oscar	Overton	Pastor
Alfred	Harris	Pastor

Latrelle	Holmes	Pastor
Jim	Ananich	Michigan Senate
Sheldon	Neely	Michigan House
Phil	Phelps	Michigan House
Jeff	Wright	Drain Commissioner, Genesee County
Amy	Hovey	Dan Kildee office
Jamie	Gaskin	Dan Kildee office
Tim	Herman	Flint Chamber of Commerce
Brian	Larkin	Flint Chamber of Commerce
Eric	Mays	Flint City Council
Jacqueline	Poplar	Flint City Council
Kerry	Nelson	Flint City Council
Joshua	Freeman	Flint City Council
Wantwaz	Davis	Flint City Council
Herbert	Winfrey	Flint City Council
Monica	Galloway	Flint City Council
Vicki	VanBuren	Flint City Council
Scott	Kincaid	Flint City Council

Speaker comments:

RDS – Collaboration led to solution, outline of solution
Mayor Walling – Importance of solution to Flint
Dan Wyant – School testing results, overview of steps on transition from Flint River to DWSD
Nick Lyon – DHHS involvement
Dr. Eden Wells – Testing of water going forward, use of filters approved by NSF
Ridgway White – Importance of collaboration/commitment to Flint

Talking points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
    - The Michigan Department of Health and Human Services and the Department of Environmental Quality today also is committing an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

- Today's announcement in an important step as we move forward together.
    - But it is not our first step, nor will it be our last.

        - This announcement builds on work we've already set in place.
            - That includes $4.2 million in state grants and loan restructuring to help identify and fix infrastructure problems.
            - State agencies have been working closely with Flint leaders and the community for more than a year.

- There will be more to do.
    - Flint has an aging water infrastructure system with challenges that we – together – will continue to address.

- We will continue to test Flint schools for lead levels in drinking water.
    - Schools across the state might also have questions.
    - The Department of Environmental Quality will work with districts across the state to provide testing.
        - Districts can send water samples and paperwork and the nominal charge. (It costs $26 per sample).

- The steps outlined in the comprehensive action plan are still in effect.

FAQs for Media Q&As

Switch to Great Lakes Water Authority

What finally pushed the state to this decision?

This was the City's request, and the Governor supports it, based on several key factors:
In the near term, DWSD water will be easier to manage. It comes from a more stable source than the river, it is fully optimized for corrosion control, and it is clear that residents of Flint have more confidence in this water source.

Will this solve Flint's water crisis?

In combination with the other short term, intermediate term and long-term steps outlined last week, this move represents a big step forward. Flint still has serious system maintenance challenges it must address.

If you're saying residents will still have lead because of their plumbing, does that mean every other city in this state has a lead problem?

Many areas of the state have lead in their infrastructure mix.

Where's the state getting the money to fund this?

We have submitted a formal request to lawmakers via the appropriations process.

Where's the city getting the money to fund this?

The city is contributing all it can, and is getting assistance for its match from the Mott Foundation.

How long will the switch take?

The switch will be completed by the City and Great lakes Water Authority, but our understanding is that it can be accomplished in the very near term once the arrangements are complete.

How long will it take before Detroit's corrosion controls provide protection for Flint?

It will take some time for the corrosion control additives to build on pipe walls throughout the system. Estimates vary. The state can assure we will commence monitoring of the system early 2016 and report results as we get them to keep the community updated.

Why do residents still need to use filters and bottled water?

The filters and bottled water are responsible precautions for any resident concerned about lead exposure.

Do the filters actually work? We've been hearing they don't protect for lead.

Yes, the filters work. They are all certified for lead removal by the National Sanitation Foundation.

The filters are only good for 100 gallons. What happens when they are used up?

They will need to be replaced. And residents can get a new filter.

What about restaurants?

What's going to be done about lead service lines?

Long term, this is the only permanent solution to lead exposure. The state has committed to helping the city accomplish this goal long term.

Do you wish you'd made this switch sooner?
We support the City's decision. We can't look backward. We feel the state has responded quickly and effectively as information has surfaced, been investigated and verified. While the City of Flint is, right now, in compliance with the federal Lead and
Copper Rule, we recognize there is a disparity between surveillance testing and other testing happening in the community that we need to better understand and we are working on developing our knowledge.

Schools testing

What do these results say?
The results say we need to further investigate Flint schools and help the schools find clearer causes for some the results we got.

Any theories about what's going on?
It is possible there are specific points in the plumbing that have lead components which need to be replaced, but we can't say anything definitively until we perform an investigation at each school.

Do the schools have lead service lines? If not, why are they getting such high results?
The schools we tested initially do not have lead service lines. There are a few possible reasons why lead is being detected at specific points in the buildings and not others. When we know things definitively, we will make the information public.

How long do the schools have to stay on bottled water? Just until the switch to Detroit, or longer term?
We are encouraging the schools to continue their current protective measures as a precaution until we can get into the buildings and get more answers.

Why did you only test 13 schools?
That was what the Flint Public Schools requested.

What happens to other schools?
We will test all the schools in Flint if they request it.

What about the schools that can't afford to update their entire plumbing systems?
This is why we are having plumbing assessments completed. There is no way to know yet what each building will require.

How confident are you in your testing? You've got results all over the map.
We are confident that our testing meets the requirements for the federal Lead and Copper Rule, which is surveillance monitoring. The bigger question is whether surveillance monitoring meets the public health protection standards that Lead Exposure Testing methods do. The EPA is working on that question now, and we are engaged in that dialogue.

What do you mean by "health exposure testing"? What are you doing next?

The 90th percentile of your results is still below 15 ppb. Does that make you more or less confident in your testing and in your protocols?

It makes us confident that the testing protocol delivers consistent results. But again, it does raise questions about whether this testing method shows what people think it does or what they really want to know, which is actual lead exposure from lead plumbing in a home.

Any idea how long kids have been exposed to lead? Was it before the move to the Flint River?
That is possible. We don't know.

How does the state bring this new information into the broader picture of kids' lead exposure across the state?

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray Governor's Office: 517-335-6397 Brad Wurfel, 517-284-6713 Department of Environmental Quality Jennifer Eisner, 517-230-9804 Department of Health and Human Services	Thursday, Oct. 8, 2015

Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint

State, Mott Foundation and city form partnership to fund switch

FLINT, Mich. – Flint families and children will be better protected by reconnecting with the Great Lakes Water Authority as the source of the city's drinking water, Gov. Rick Snyder said.

Snyder said Thursday that he will request the state Legislature to provide half, or $6 million, of the $12 million needed to reconnect with the authority. The Flint city government will provide $2 million and the Charles Stewart Mott Foundation will donate $4 million.

"All Flint residents need clean, safe drinking water," Snyder said. "The technical experts helping the city on its water advisory all agree this move back to the Great Lakes Water Authority provides the best public health protection for children and families. This effort today is the result of people coming together to solve a problem. I appreciate Detroit's willingness to reconnect with Flint, the Mott Foundation's generous donation, and the dedication of all parties to come together to protect Flint families and children."

The Michigan Departments of Environmental Quality and Health and Human Services today also committed an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

Flint city leaders requested the state's help to fund the reconnection after a Wednesday meeting of Flint's Technical Advisory Committee. Flint's move to the Great Lakes Water Authority is expected to cost about $1.3 million per month until the Karegnondi Water Authority is completed next summer.

INSERT MAYOR QUOTE HERE

The move to Detroit water, which is drawn from Lake Huron, carries many public health benefits. As large bodies of water, the Great Lakes are naturally prone to fewer problems from large rain events and other runoff issues that can be present in shallower rivers. Additionally, the Great Lakes Water Authority has already fully optimized its corrosion control, using phosphates to help coat the insides of pipes and prevent lead from leaching into the water.

However, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control. Additionally, some households in the city could experience lead in their drinking water until all lead pipes and plumbing are replaced.

INSERT MOTT FOUNDATION QUOTE HERE

To best protect public health, Snyder said state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure.

Free filters are available for current MDHHS clients at the 125 E. Union St. or 4809 Clio Road MDHHS office locations. For residents who are not currently enrolled in MDHHS assistance programs, free filters are available at the Genesee County Community Action Resource Department offices at 2727 Lippincott and 601 North Saginaw in Flint. Staff will be at all four locations from 9 a.m. to 4 p.m., Monday through Friday, to distribute filters and assist residents who have questions about proper installation. At the Lippincott location only, extended hours will be offered this weekend, including until 7 p.m. on Thursday and Friday and from 10 a.m. to 2 p.m. on Saturday.

Other good practices for residents concerned about lead include turning on the cold water tap and running the water until it's as cold as it will go. Additionally, only use cold water for cooking, drinking and especially mixing baby formula.

School test results released; more investigation planned

The state today also released the first results from its lead screening program in schools and homes. Of 37 total samples taken at 13 buildings, four samples spread over three buildings exceeded the federal action level of 15 parts per billion.

However, this sampling provides only an initial screen, and the state is committing to further testing water and inspecting plumbing at these schools. Until testing is complete, schools are advised to continue using bottled water and filtration as a precaution to protect children.

In addition, free testing is still available for any other Flint school, including daycares and Head Starts. Free testing is also available for any Flint resident.

Additional information, including more detailed lead screening results, is available at www.michigan.gov/flintwater.

###

From: Wyant, Dan (DEQ)
Sent: Friday, December 11, 2015 12:38 PM
To: Sygo, Jim (DEQ);Krisztian, George (DEQ);Shekter Smith, Liane (DEQ)
Cc: Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Devereaux, Tracy Jo (DEQ)
Subject: FW: 2015-12-07 Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED

FYI, I saw this in the Director's mailbox.

Karen for MBT

From: Muchmore, Dennis (GOV)
Sent: Friday, December 11, 2015 11:17 AM
To: Wyant, Dan (DEQ); Scott, Allison (GOV); Agen, Jarrod (GOV); Emmitt, Beth (GOV); Bedan, Morgan (GOV); Baird, Richard (GOV)
Cc: Dickinson, Sarah (GOV); Edgerton, Shelly (LARA); Dykema, Linda D. (DHHS)
Subject: RE: 2015-12-07 Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED

I particularly like the explanation of a Part Per Billion and suggest that just as a postscript that this be included whenever we send out a memo on these kinds of issues that use technical explanations. It really makes it easier for a citizen to understand.

From: Wyant, Dan (DEQ)
Sent: Monday, December 7, 2015 3:34 PM
To: Scott, Allison (GOV) <scotta12@michigan.gov>; Muchmore, Dennis (GOV) <muchmored@michigan.gov>; Agen, Jarrod (GOV) <AgenJ@michigan.gov>; Emmitt, Beth (GOV) <emmittb@michigan.gov>; Bedan, Morgan (GOV) <BedanM@michigan.gov>; Baird, Richard (GOV) <bairdr@michigan.gov>
Cc: Wyant, Dan (DEQ) <WyantD@michigan.gov>; Dickinson, Sarah (GOV) <DickinsonS@michigan.gov>; Edgerton, Shelly (LARA) <EdgertonS1@michigan.gov>; Dykema, Linda D. (DHHS) <DykemaL@michigan.gov>
Subject: 2015-12-07 Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED
Importance: High

Dear Governor's Office:

Please provide the following to the Governor as a part of his daily briefing packet. If you have any questions, please let us know.

- Flint Drinking Water Action Plan Update
- Document on What is a Part Per Billion.

As a reminder we will prepare these reports to you weekly, every Monday afternoon, for the previous week's actions. I have also added Richard Baird to this weekly email.

Thank you.

Dan Wyant
Director

From: Krisztian, George (DEQ)
Sent: Wednesday, October 14, 2015 7:57 AM
To: Shekter Smith, Liane (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ)
Cc: Sygo, Jim (DEQ);Busch, Stephen (DEQ);Cook, Pat (DEQ);Benzie, Richard (DEQ);Prysby, Mike (DEQ);Devereaux, Tracy Jo (DEQ);Philip, Kris (DEQ);DeBruyn, Dana (DEQ);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ)
Subject: RE: DRAFT DELIBERATIVE. NOT SUBJECT TO FOIA - daily update 10/13.

I have added some to the original list to bring things up to date for today's report to the Governor.

I think the full blown verbiage below can be used as a separate attachment and then the chart can be filled in with a very short description. I have included suggested descriptions for the chart in parentheses.

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, October 13, 2015 5:12 PM
To: Krisztian, George (DEQ)
Cc: Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Sygo, Jim (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Devereaux, Tracy Jo (DEQ); Philip, Kris (DEQ); DeBruyn, Dana (DEQ)
Subject: DRAFT DELIBERATIVE. NOT SUBJECT TO FOIA - daily update 10/13.

Action Step 1. Preliminary list completed, circulated to HHS, and has been provided to DLARA to begin plumbing assessments. The list will remain active in case of additional schools requesting assessment/testing. (COMPLETE)

Action Step 2. See Item 1. DLARA to coordinate with Flint Schools on access for Plumbing Assessments. Tap coding identification from EPA guidance to be provided to DLARA. (DLARA Inspectors ready)

Action Step 3. Preliminary comments received by voice mail from EPA. Need to discuss directly. (Incorporating comments from partners)

Action Step 4. DEQ comments provided to MDARD and draft forwarded to DHHS for their comments. (Comments provided to MDARD)

Action Step 6. Approve Flint Plan for waterline (Disinfection Complete, waiting for test results and completion of system flushing)

The city and the county flushed the pipeline beginning yesterday, the first set of samples for total coliform analysis were collected around 2:30am. Genesee County will be collecting their second sample for bacteriological analysis between 6 and 8pm.

I suspect that it will take additional time to flush the Dort Reservoir before it is ready to be sampled and may set back the time that the pipeline is ready to be placed into operation (Thurs the soonest possible). The yard piping configuration at the WTP does allow for flexibility in operation and ability to take Dort out of service and maintain supply from Detroit; however, I have not been able to confirm that this is the way the city plans to proceed.

Action Step 7. E-mail sent to DHHS to determine if DEQ or DHHS will be lead and to determine how this effort will be coordinated with broader Pb education/outreach efforts.

Action Step 8. The City of Flint has been contacted and the initial meeting is tentatively scheduled for Friday October 16, 2015. (Meeting tentatively scheduled for 10/16/15)

Action Step 9. The City of Flint has been contacted and the tour of the WTP is tentatively scheduled to occur in conjunction with the initial meeting. Logistics may require postponement until the following week. (Meeting tentatively scheduled for 10/16/15).

Action Step 12. DHHS has been contacted and they have indicated as of 9:30 AM October 13, 2015 that there has been no formal request for an emergency declaration. (Complete, DHHS to notify DEQ if status changes)

Action Step 19. Expedite 399 plan and P04 plan

I contacted Samir Matta from LAN (Flint's consultant) for an update on the corrosion control plan and submittal of the Act 399 permit application. Flint operators, with the assistance of LAN, conducted bench tests using a corrosion inhibitor (orthophosphate) and are making comparisons for use with (treated water from Detroit vs. water treated from the Flint River). LAN is currently preparing plans and a design for installation of an orthophosphate feed system. LAN expects to submit the Act 399 permit application to the DEQ by no later than the end of this week. (Corrosion Control Optimization studies in process)

Action Step 18. Contact KWA to find out if there are any bottlenecks that need to be removed to expedite completion of the KWA pipeline.
(Further discussions with Lapeer County may need to take place)
I contacted John O'Brien (Genesee County Drain Commissioner's Office). The most significant bottleneck involves road restrictions currently being imposed by the Lapeer County Road Commission and include:

- All Lapeer County secondary north-south roads are tagged "no construction traffic" for this project except for primary roads (M-19, M-53, and M-24). This significantly increases distances that construction vehicles must travel (upwards of 15 to 20 miles) to accomplish a short jog either north or south.
- Weight restrictions in the spring will cause construction to slow or stop for one to two months. The county has indicated that St. Clair and Sanilac are not imposing the weight restrictions; however, Lapeer County will maintain their restrictions.

From: Busch, Stephen (DEQ)
Sent: Monday, August 31, 2015 10:35 AM
To: Wurfel, Brad (DEQ)
Cc: Shekter Smith, Liane (DEQ);Wyant, Dan (DEQ);Prysby, Mike (DEQ);Muchmore, Dennis (GOV);Hollins, Harvey (GOV);Murray, David (GOV);Wurfel, Sara (GOV);Jessica Brown;Brown, Eric (GOV)
Subject: Re: Urgent: Independent Flint Water Study

Brad,

We are aware of the VT professor. I can bring you up to speed this afternoon or whenever you are available

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

On Aug 31, 2015, at 10:25 AM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:

> Liane / Steve, can you look into this situation as a priority?
>
> Everyone else -- just got this from the ACLU. Call me if you have questions / counsel.
>
> Thanks.
> b
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> **From:** Curt Guyette <cguyette@aclumich.org>
> **Date:** August 31, 2015 at 10:18:34 AM EDT
> **To:** "wurfelb@michigan.gov" <wurfelb@michigan.gov>
> **Subject: Urgent: Independent Flint Water Study**
>
> Mr. Wurfel,
> Prof. Marc Edwards of Virginia Tech university has been leading a research project to conduct an independent study of lead in Flint's water. Working with a group of city residents, they have been collecting water samples from homes throughout the city. The study is still under way, but the results so far have been so disturbing that VT has begun posting results on the web in order to alert residents about how serious the problem may be.
> This is what VT is reporting:
> *Over the weekend we analyzed another 72 lead samples collected by Flint residents and mailed to VT. For the 120 samples analyzed to date,* ***forty two percent were over 5 ppb,***

which suggests a serious lead in water problem according to our experience and criteria. Twenty-three (20% of those collected) also exceeded 15 ppb lead, suggesting a serious lead in water problem. ***That is, the Flint Citizen Science study to date, is finding results worse than the EPA standard which is applied to sampling "worst case" homes.*** *The highest lead sampled in first draw so far was 158 ppb, and the highest sample after 45 second flushing is 1051 ppb. Six of 120 homes sampled (5%), had over 15 ppb lead even after 2 minutes of continuous flushing.* ***The 90%'ile lead level in the Flint Water Study is currently 30 ppb, which is double the EPA standard applied to "worst case" homes, and in a range where water consumption has caused lead poisoning in children and adverse pregnancy outcomes.*** *Needless to say, these data are very worrisome.*
Here is the website containing the information.
I am writing about this for a story that will be posted tomorrow. If the city chooses to respond, I need to hear back from you by the end of the day today, Aug. 31.
Sincerely,
Curt Guyette

From:	Krisztian, George (DEQ)
Sent:	Saturday, October 17, 2015 2:03 PM
To:	Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ)
Cc:	Sygo, Jim (DEQ);Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Cook, Pat (DEQ);Prysby, Mike (DEQ)
Subject:	Action Steps for the week of October 19-23
Attachments:	RE: Action Steps for the week of October 19th; RE: Action Steps for the week of October 19th
Importance:	High

Karen,

Attached are 25 action steps for the week of October 19-23. Please create this as a new document using the template from last week's report. This will be part of the report to the Governor for Monday October 19, 2015.

Please carry forward the following from the October 12-16 report to the October 19-23 report Please make these items 1-5 on the new report.

Item #5
Item #9
Item #16
Item #25
Item #26

Fro Points of Contact use Liane, Steve, Pat and Mike for the items listed in Steve's e-mail. Use Maggie, George, Karen for the items listed in Maggie's e-mail

Use the original name for the items that are being carried over from last week.

Please contact Liane, Steve or Maggie for clarification on any of the new action items.

I will send you a separate e-mail for action step updates taken on Friday 10/16/15.

Thank you!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Busch, Stephen (DEQ)
Sent: Friday, October 16, 2015 4:07 PM
To: Pallone, Maggie (DEQ);Krisztian, George (DEQ);Shekter Smith, Liane (DEQ);Cook, Pat (DEQ);Prysby, Mike (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ)
Cc: Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ)
Subject: RE: Action Steps for the week of October 19th
Attachments: ODWMA-ActionSteps-10-19-draft.docx

Attached are the draft ODWMA action steps for next week, pending Liane's review.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Pallone, Maggie (DEQ)
Sent: Friday, October 16, 2015 2:55 PM
To: Krisztian, George (DEQ); Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ)
Cc: Shaler, Karen (DEQ); Thelen, Mary Beth (DEQ); Wyant, Dan (DEQ); Sygo, Jim (DEQ)
Subject: RE: Action Steps for the week of October 19th

Additional action items:

After Action Review panel
Staff hiring plan
$1 million for lab billing code
Introduce Part 54 legislative changes
Finalize FY 17 budget request

Thanks George.

Maggie

From: Krisztian, George (DEQ)
Sent: Friday, October 16, 2015 8:50 AM
To: Shekter Smith, Liane (DEQ) <SHEKTERL@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>; Cook, Pat (DEQ) <COOKP@michigan.gov>; Prysby, Mike (DEQ) <PRYSBYM@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Tommasulo, Karen (DEQ) <TommasuloK@michigan.gov>
Cc: Shaler, Karen (DEQ) <SHALERK@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Sygo, Jim (DEQ) <SygoJ@michigan.gov>

Subject: Action Steps for the week of October 19th
Importance: High

I need to have 25 additional action steps for the week of October 19th. I would like at least 15 steps from Liane's group and 10 from exec. Please submit your steps to the whole group by 4:00 PM today.

Given how tight everyone's schedule is we will try to do this electronically. If it works, then we will make this a weekly deadline. If it doesn't work then we will have weekly meetings.

Thank you!
George

George L. Krisztian
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Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph **PPI**

PRELIMINARY AND DELIBERATIVE – NOT SUBJECT TO FOIA

Action Steps for week of 10/19/2015

1. Develop Letter to Schools
2. Finalize Sampling Protocol
3. Confirm school sampling logistics
4. Meeting(s) with school staff/management
5. Complete Non-Transient Non-Community Water Supply letter
6. Meet with DHHS and discuss all lead education material for schools
7. ODWMA staff observe a DLARA plumbing assessment
8. Develop sample form and chain of custody document
9. Provide Director with revised Part 54 language
10. Review CCT plan and get any EPA comments
11. Review construction permit application and issue construction permit for phosphate equipment.
12. Review Standby Operation of Flint Water Treatment Plant with City of Flint.
13. Provide City of Flint updated monitoring schedule based on DWSD/GLWA service.
14. Contact City and County daily for DWSD connection status updates.
15. Work with KWA and other agencies to address bottleneck issues.
16. Verify City of Flint distribution operations under DWSD/GLWA service.
17. Confirm recommendations for updated 2004 letter to EPA.
18. Contact City of Flint for Service Line Record status update and obtain a copy of the records to date.
19. Provide DHHS with any available cross-reference information.
20. Develop childcare facility guidance or review DHHS related materials.

From: Pallone, Maggie (DEQ)
Sent: Friday, October 16, 2015 2:55 PM
To: Krisztian, George (DEQ);Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Cook, Pat (DEQ);Prysby, Mike (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ)
Cc: Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ)
Subject: RE: Action Steps for the week of October 19th

Additional action items:

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Maggie

From: Krisztian, George (DEQ)
Sent: Friday, October 16, 2015 8:50 AM
To: Shekter Smith, Liane (DEQ) <SHEKTERL@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>; Cook, Pat (DEQ) <COOKP@michigan.gov>; Prysby, Mike (DEQ) <PRYSBYM@michigan.gov>; Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>; Tommasulo, Karen (DEQ) <TommasuloK@michigan.gov>
Cc: Shaler, Karen (DEQ) <SHALERK@michigan.gov>; Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov>; Wyant, Dan (DEQ) <WyantD@michigan.gov>; Sygo, Jim (DEQ) <SygoJ@michigan.gov>
Subject: Action Steps for the week of October 19th
Importance: High

I need to have 25 additional action steps for the week of October 19th. I would like at least 15 steps from Liane's group and 10 from exec. Please submit your steps to the whole group by 4:00 PM today.

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Thank you!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality

Desk ph (517) 284-6719
Cell ph PPI

From: Cook, Pat (DEQ)
Sent: Friday, October 09, 2015 1:27 PM
To: Shekter Smith, Liane (DEQ)
Subject: Draft sampling instruction for schools
Attachments: Collecting Water Samples at Schools 10_9_15.docx

Liane - here is my first draft. Please let me know if I'm on the right track or if you would like anything else added, deleted or changed.

pat

Protocol for Collecting Water Samples at Schools for Lead Analysis

The following is a detailed, step-by-step procedure to ensure samples are collected in a systematic, consistent manner to provide meaningful results. By following the below procedures school and health officials will have information to be able to identify and correct any sources that contribute lead into drinking water. The recommended procedures are:

- With the assistance from Department of Licensing and Regulatory Affairs (LARA) staff, conduct an on-site assessment of the building plumbing to prioritize sample sites.
- School staff collects the samples from prioritized sites and in the sequence recommended by LARA.
- School staff submits the samples and appropriate paperwork to a certified laboratory.
- Certified laboratory performs analysis and informs schools of results.
- School officials/staff review and interpret test results.

Step 1 – Prepare for On-Site Assessment

In order to assist LARA staff to identify and prioritize sample sites, school staff should compile, collect, and review any records pertaining to the building plumbing. This includes building permits, plumbing permits, as built plans, and information about the service line and all potable water pipes, fixtures and appurtenances within the building. In addition, answers to the following questions will help streamline the on-site assessment process. (or place in appendix?)

- When was the facility built?
- Have new buildings or additions been added? If so, when were they added? If built since 1986, were lead-free plumbing and solder used?
- When were the most recent plumbing repairs made and where were they located?
- What are the potable water pipes in your facility made of and what is their location? Options include: lead, brass, copper, plastic, galvanized metal and other materials. What materials were used to solder the potable water pipes in your system? Are brass taps, fittings or valves used? Note the locations.
- How many of the following outlets provide water for consumption: Bubblers, ice makers, water coolers and kitchen taps. Note their location. Include taps that might be used for making coffee or preparing formula.
- What brands and models of water coolers (cooled drinking fountains) provide water in your facility and what is their location?
- Do faucets have accessible screens and have they been cleaned?
- Can you detect any signs of corrosion, such as leaks, rust-colored water or stains?
- Is any electrical equipment grounded to water pipes?
- Are there any records of previous water testing?

Step 1 – Arrange for On-site Assessment with LARA Staff

LARA staff will contact school officials/staff and set a date and time for the assessment. A school representative familiar with the building layout and plumbing system needs to accompany LARA staff as they conduct the assessment. A room reserved for records review should also available.

Step 3 – Prioritize Sample Sites and Sampling Sequence

It is recommended that all faucets, taps and outlets that are used regularly by students and staff for drinking, cooking, making coffee or food preparation will be sampled. High priority sites would include:

- Drinking Fountains (both bubblers and water cooler style).
- Kitchen Sinks, faucets or taps.
- Breakroom, classroom, teachers' lounge or other sinks known to be or visibly used for consumption (water glasses or coffeemaker and/or cups are nearby).
- Bottled Water Dispensers
- Ice Makers

LARA staff will assign a sample site Identification (ID) number for each sample site and the order in which each site is to be sampled. This number will reflect the type of tap/outlet and location. Sites closest to the service line are to be collected first, then in a sequence as they get farther from the service line until the site the farthest away is sampled last. This will ensure that the piping is not flushed by a downstream or other sample location prior to collecting the samples at that site.

Step 4 – Collect the Samples

After the sites and order of collection have been determined by LARA staff, the samples can be collected by school staff. While not a requirement, it is highly recommended that the samples be collected by someone with experience in water sample collection.

1. Three samples will be collected from each designated sample site. Therefore, obtain three, (150 or 250 milliliter?) (ml) sample containers for each sample site from the certified laboratory performing the analysis.

2. Collect all water samples before the building opens and before any water is used. Ideally, the water should sit in the pipes unused for at least 8 hours but not more than 18 hours before a sample is collected.

3. Do not collect samples in the morning after a vacation, weekend or holiday. These results will likely be higher because of the extended contact time with the water

4. The three samples from each site are to be collected at first draw, after a 30 second flush, and a 2 minute flush as follows:

    a. After the appropriate 8 - 18 stagnation time, place the first bottle under the tap, open the tap to produce a "pencil thin" flow and fill the bottle to the appropriate level.
    b. 30 seconds after filling the first bottle, fill the second bottle.
    c. 2 minutes after filling the second bottle, fill the third bottle.

5. Make sure to mark the bottles as "first draw", "30 sec flush" or "2 min flush" and also indicate this information on the sample submission form.

6. Assign an appropriate sample Identification (ID) number to each sample collected. Record this number (including the flush time) on the sample container and submission form.

7. Collect the remainder of the samples from all designated sites in the pre-determined order as recommended by LARA.

8. Deliver or ship the samples to the lab as instructed.

Step 5 - Certified laboratory performs analysis and informs schools of results

Step 6 – School officials/staff review and interpret test results

From: Ray Berkin <taph20ray@gmail.com>
Sent: Tuesday, December 01, 2015 6:11 PM
To: Bob Miller;Bonnifer Ballard;Bruce Bartley;Cook, Pat (DEQ);Eric Johnson;Jim Van De Wege;Joe VanderStel;Thurston, Brian (DEQ);Brock Howard;Joe Little;John Sulewski;Karlyn Wickham;Laura Churhran;Lynn Anderson;Malcolm Fox;Mark Kneibel;Mike O'Malley;Richard Edwards;Ron Hayes;Scott Schmidt (Scmidts@Michigan.gov);Tim Neumann (tneumann@mrwa.net);Trevor Wagenmaker;Paul Reinsch
Subject: Flint Water On Mi Public Radio,

Today NPR said they were having a Special Documentary " Next Week"
On the Flint Lead / Copper Issue , I can't find a Date or Time , so be on the Listen,
and pass the word around. If you hear when it is to Air let Other Folks (and Me) know
--
Ray Berkin
269 355 0850

From: Ray Berkin <taph20ray@gmail.com>
Sent: Saturday, December 19, 2015 2:13 PM
To: Bob Miller;Bonnifer Ballard;Bruce Bartley;Cook, Pat (DEQ);Eric Johnson;Jim Van De Wege;Joe VanderStel;Thurston, Brian (DEQ);Brock Howard;Joe Little;John Sulewski;Karlyn Wickham;Laura Churhran;Lynn Anderson;Malcolm Fox;Mark Kneibel;Mike O'Malley;Richard Edwards;Ron Hayes;Scott Schmidt (Scmidts@Michigan.gov);Tim Neumann (tneumann@mrwa.net);Trevor Wagenmaker;Paul Reinsch
Subject: Re: Flint Water On Mi Public Radio,

http://www.msnbc.com/rachel-maddow/watch/toxic-water-tragedy-points-directly-to-snyder-588635715518
Watch this From Rachel Maddow Show ,, there is a short pause and then it continues wit an interview of the Doctor

On Tue, Dec 1, 2015 at 6:11 PM, Ray Berkin <taph20ray@gmail.com> wrote:
Today NPR said they were having a Special Documentary " Next Week"
On the Flint Lead / Copper Issue , I can't find a Date or Time , so be on the Listen,
and pass the word around. If you hear when it is to Air let Other Folks (and Me) know
....

Ray Berkin
269 355 0850

--

Ray Berkin
269 355 0850

From: Ray Berkin <taph20ray@gmail.com>
Sent: Saturday, December 19, 2015 2:21 PM
To: Bob Miller;Bonnifer Ballard;Bruce Bartley;Cook, Pat (DEQ);Eric Johnson;Jim Van De Wege;Joe VanderStel;Thurston, Brian (DEQ);Brock Howard;Joe Little;John Sulewski;Karlyn Wickham;Laura Churhran;Lynn Anderson;Malcolm Fox;Mark Kneibel;Mike O'Malley;Richard Edwards;Ron Hayes;Scott Schmidt (Scmidts@Michigan.gov);Tim Neumann (tneumann@mrwa.net);Trevor Wagenmaker;Paul Reinsch
Subject: Re: Flint Water On Mi Public Radio,

http://michiganradio.org/post/listen-not-safe-drink-special-documentary-about-flint-water-crisis#stream/0

Here is the Documentary ...about 54 Min Long

On Thu, Dec 3, 2015 at 12:15 PM, Ray Berkin <taph20ray@gmail.com> wrote:
http://michiganradio.org/post/join-michigan-radio-issues-ale-flint-s-water-crisis#stream/0
Link to recording of an event
Issues & Ale– Flint's Water Crisis
Tuesday, December 1, 7:00-8:30 PM

Might be of interest , when I hear about the Documentary I'll try to let You all Know

On Tue, Dec 1, 2015 at 6:11 PM, Ray Berkin <taph20ray@gmail.com> wrote:
Today NPR said they were having a Special Documentary " Next Week"
On the Flint Lead / Copper Issue , I can't find a Date or Time , so be on the Listen,
and pass the word around. If you hear when it is to Air let Other Folks (and Me) know
...
Ray Berkin
269 355 0850

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Ray Berkin
269 355 0850

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Ray Berkin
269 355 0850

From: Tommasulo, Karen (DEQ)
Sent: Thursday, November 12, 2015 9:55 AM
To: Flechter, Matt (DEQ);DeBruler, Cari (DEQ);Pearson, Sara (DEQ);Acevedo, Jennifer (DEQ);Woods, Vence (DEQ);Wygant, Adam (DEQ);Berman, Jonathan (DEQ);Sweet, Robert (DEQ);Adelman, Mitch (DEQ);Casey, Steve (DEQ);Roycraft, Phil (DEQ);Busch, Stephen (DEQ);Jordan, Kameron (DEQ);Lachance, Amy (DEQ);Rudolph, Brian (DEQ);Kecskemeti, Tracy (DEQ)
Subject: Outreach team agenda
Attachments: 151112. Outreach team agenda.docx

I attached the outreach team agenda for our 10:30.

Karen Tommasulo
Public Information Officer
Michigan Department of Environmental Quality
517-284-6716 | 517-599-5733
tommasulok@michigan.gov

Outreach Team

Nov. 12, 2015

6S – Coleman Young Conference Room

Call-in number: PPI
Access code: PPI

Executive Office Updates

- Flint drinking water
- Lake Erie phosphorus reduction plan

Division updates

- ODWMA: Flint drinking water, Revolving Loan – Round 3 for SAW grants, Revolving Loan – 1st Q FY16 Loans, Revolving Loan – 4th Q FY15 Loans, Michigan Revised Total Coliform Rule
- OEA: Upcoming events, DEQbicle to be released next week, GovDelivery update
- OOGM: Proposed Oil Well in Southfield, Mineral Wells FOIA appeal

District updates

- Kalamazoo: WRD using Miwaters, Flemming Brothers Oil Company

Next meeting: Dec. 10, 6S – Great Lakes Conference Room

From: Maciejewski, Molly <MMaciejewski@a2gov.org>
Sent: Friday, November 13, 2015 4:30 PM
To: Marczak, Barbara
Cc: Randy Roost;Steglitz, Brian;Christine Spitzley (cspitzley@mitcrpc.org);John Willemin (jawillemin@ftch.com);Mark Coleman (mcoleman@wadetrim.com);Busch, Stephen (DEQ);Fritz, Bill (bfritz@waterfordmi.gov);Bonnifer Ballard (bballard@mi-water.org)
Subject: Re: Pending Legislation

Yes I have been watching this- our council will be discussing Monday. We still have PAA in retainer

Sent from my iPhone

> On Nov 13, 2015, at 3:36 PM, Marczak, Barbara <BMarczak@preinnewhof.com> wrote:
>
> Yes. WE need to stay on top of this. Do we still have PAA on retainer or has that gone away? Government Affairs and Legislation council should also review.
>
> Barbara E. Marczak, P.E.
> Prein&Newhof
> t. 231-798-0101, ext. 1201 f. 231-798-0337 c. PPI
> 4910 Stariha Drive | Muskegon, MI 49441 Website | Blog | LinkedIn
>
>
>
> -----Original Message-----
> From: Randy Roost [mailto:rwr@LBWL.COM]
> Sent: Friday, November 13, 2015 8:39 AM
> To: Marczak, Barbara; Brian Steglitz (bsteglitz@a2gov.org); Christine
> Spitzley (cspitzley@mitcrpc.org); John Willemin (jawillemin@ftch.com);
> Mark Coleman (mcoleman@wadetrim.com)
> Subject: Pending Legislation
>
>
> The following story was reported today in the Lansing State Journal.
>
> We may want to make sure that we stay on top of this since this is likely to affect all water utilities in the State of Michigan.
>
> Is this something that we want to consider bringing in PAA for?
>
>
> Randy
>
>
>
>
> Bills seek clean water
>
>

> Democrats react to lead in Flint, Detroit shutoffs
>
> PAUL EGAN
>
> DETROIT FREE PRESS
>
> Lead contamination of drinking water in Flint and large-scale shutoffs of tap water in Detroit have prompted a package of bills that lawmakers say will ensure clean and affordable drinking water for all Michigan residents.
>
> The bills, which have mostly Democratic but at least one Republican sponsor, were announced at a Capitol news conference Thursday and are aimed at stopping contamination, aggressive shutoffs and exorbitant pricing of drinking water.
>
> "We all believe that water is a human right," said Rep. Stephanie Chang, D-Detroit, one of the sponsors. "What has happened in our cities could happen anywhere in our state." The bills would establish clean drinking water as a human right; increase transparency about water rates and shutoffs; ensure that Michigan Department of Environmental Quality testing standards comply with U.S. Environmental Protection Agency standards; prohibit utilities from charging customers during a period of time the customer did not receive a bill, provided the customer has advised the utility about the non-billing; heighten notice requirements for water shutoffs and protect certain people, such as pregnant women, from having their water shut off, and reduce the crime of a customer reconnecting to a water supply without authorization from a felony to a misdemeanor.
>
> The state recently acted to reconnect the City of Flint to Lake Huron
> water supplied by the city of Detroit after state officials first
> denied but later conceded that corrosive water drawn from the Flint
> River as a cost-cutting move had resulted in unsafe levels of lead in
>
> "What we're seeing is complete disregard for human life, human safety and the future of our children."
>
> "What my family has gone through is horrific," said Melissa Mays, a Flint mother of three whose children drank lead-contaminated water. "What we're seeing is complete disregard for human life, human safety and the future of our children."
>
> In Detroit, widespread water shutoffs last summer over delinquent bills drew international attention as a human rights issue and sparked litigation by residents alleging they were denied their due process rights.
>
> Nicole Hill, a Detroit mother of three who has had her water shut off twice due to what she said were billing errors and other administrative problems in Detroit.
>
> She said she received the shutoffs despite paying close to $3,000 for water during a two-year period. "When questioned about the account, they would say computer glitch, or we don't know, or you have a leak," Hill said at the news conference.
>
> Rep. Edward Canfield, R-Sebewaing, did not attend the news conference but said he is part of a working group developing the bills and plans to sponsor at least two of them, including one related to whether customers should be liable for charges for time periods when they have not received bills. He said he hopes there will be other Republican co-sponsors for some of the bills.
>
> "I don't believe I can necessarily support every bill that comes out of this package," but "this is not some- thing that I view as a political issue," said Canfield, who represents a district in Michigan's Thumb area where he said some constituents have had trouble with access to clean drinking water.
>
> Senate Minority Leader Jim Ananich, D-Flint, issued a statement in support of the bill package.

>
> "A comprehensive, bipartisan effort from the entire legislature is necessary to achieve important changes, and the bills announced today are a good start," Ananich said.
>
> Contact Paul Egan: 517-372-8660 or pegan@freepress.com. Follow him on Twitter@paulegan4.
>
>
>
>
>
> Melissa Mays of Flint at a news conference about drinking water legislation: "What my family has gone through is horrific."
>
> PAUL EGAN/DETROIT FREE PRESS

From: Donaldson, Kristina (DEQ)
Sent: Thursday, April 18, 2013 5:34 PM
To: Busch, Stephen (DEQ);Sygo, Jim (DEQ);Wyant, Dan (DEQ);Creal, William (DEQ)
Cc: Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ);Prysby, Mike (DEQ)
Subject: RE: KWA and City of Flint
Attachments: Doc2013_0417 DWSD Director Makes Statement on Flint's Decision.pdf

Fyi - Attached is a press release I received this morning from DWSD regarding the Flint decision.

Thanks,

Kris Donaldson, P.E.
District Supervisor
Office of Drinking Water & Municipal Assistance Michigan Department of Environmental Quality
27700 Donald Court
Warren, MI 48092
ph. 586-753-3759
fax. 586-753-3831

From: Busch, Stephen (DEQ)
Sent: Thursday, April 18, 2013 11:58 AM
To: Donaldson, Kristina (DEQ)
Subject: Fwd: KWA and City of Flint

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov<mailto:BUSCHS@michigan.gov>>
Date: April 18, 2013, 11:48:03 AM EDT
To: "Ms. Kristina Donaldson P.E." <donaldkm@michigan.gov<mailto:donaldkm@michigan.gov>>
Cc: "Shekter Smith, Liane (DEQ)" <SHEKTERL@michigan.gov<mailto:SHEKTERL@michigan.gov>>
Subject: Fwd: KWA and City of Flint

Kris,

As I mentioned on the phone the director would like you to be available via conference call as necessary to answer any DWSD related questions.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance MDEQ

517-643-2314

Sent from my iPhone

Begin forwarded message:

From: "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov<mailto:THELENM2@michigan.gov>>
Date: April 18, 2013, 8:21:02 AM EDT
To: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov<mailto:BUSCHS@michigan.gov>>
Cc: "Shekter Smith, Liane (DEQ)" <SHEKTERL@michigan.gov<mailto:SHEKTERL@michigan.gov>>, "Willard, Veronica (DEQ)" <WILLARDV@michigan.gov<mailto:WILLARDV@michigan.gov>>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov<mailto:THELENM2@michigan.gov>>
Subject: RE: KWA and City of Flint

Hi Stephen,

I received word last night the Governor has called a meeting on Friday, April 19, 3:00-4:30 at the Detroit Cadillac Place Office. Director has asked that you attend with him. He will also have Bill Creal attend regarding the stormwater/wastewater issues. You may ride with the Director and Bill Creal. At this time, they plan to leave Lansing at 1:00.

Please give me a call after 10:30 today to discuss if this is a problem. I am going downstairs with the Director shortly for his Earth Day kickoff.

Hopefully, you can make this work for your schedule.

Thank you.

Mary Beth

Mary Beth Thelen
Executive Management Assistant to the Director Department of Environmental Quality
Thelenm2@michigan.gov<mailto:Thelenm2@michigan.gov>
517-373-7917 or 517-241-7390

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 17, 2013 9:51 AM
To: Sygo, Jim (DEQ); Shekter Smith, Liane (DEQ); Thelen, Mary Beth (DEQ)
Cc: Shaler, Karen (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ)
Subject: RE: KWA and City of Flint

Director Wyant, Deputy Director Sygo, and Liane,

A response at this point may be moot as Flint and Genesee Co. already held a press conference yesterday rejecting the DWSD offer.

It is also unclear whether DWSD provided its offer directly to Flint and Genesee Co. by the deadline in Treasurer Dillon's letter. However, Flint and Genesee Co. still took the offer under consideration.

Our office concurs with both Flint and Genesee Co. that the offers provided by DWSD were incomplete.

Of the two scenarios provided by DWSD it appeared that only Scenario 2 was listed as potentially being more cost effective. However, this scenario did not address the following:

1. The DWSD scenarios are based on 40 MGD of service capacity. However, the KWA project is providing 60 MGD of initial capacity with potential expansion to 75 MGD in the future. Therefore, in order for a more direct comparison the DWSD scenario would need to increase capacity to 60 MGD, which would increase fixed rate commodity costs as well as the capital costs for the Huron Plant that DWSD was planning to allocate to Flint and Genesee Co., presumably by as much as 50%.

2. DWSD proposals cover a 30 year period to 2042, but fail to recognize that after this period bond payments for the KWA project will be complete and result in a significant reduction in costs for the KWA option.

3. While DWSD indicates that Flint and Genesee Co. would be given "broadened representation", it remains unclear exactly what this means in terms of actual control in the decision making process.

4. This scenario continues to rely on a single transmission system and would require the City of Flint to maintain its WTP for emergency purposes and these costs do not appear to be included. In addition, use of the Flint WTP as an emergency backup would leave Genesee Co. without an adequate backup supply to meet their 30 year needs.

Again, without DWSD providing the specific details of these proposals, it is difficult to provide a true comparative analysis, and as such Flint and Genesee Co. appear to be justified in their rejection of these proposals.

Please let me know if you require any further response.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance MDEQ
517-643-2314

From: Sygo, Jim (DEQ)
Sent: Tuesday, April 16, 2013 9:59 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Shekter Smith, Liane (DEQ); Shaler, Karen (DEQ); Thelen, Mary Beth (DEQ)
Subject: FW: KWA and City of Flint

Steve, Mike and Richard,

Please take a look at DWSD's last best offer to the City of Flint and provide your collective perspective to the Director through Liane by the end of the week. Copy me in as well. I'll be out of the office but would like to know if you think this is worth considering.

Thank you for your expedited review.

From: Wyant, Dan (DEQ)
Sent: Tuesday, April 16, 2013 6:52 AM

To: Sygo, Jim (DEQ)
Subject: FW: KWA and City of Flint

Jim,

Liane is out of the office today, Can you forward this directly to her staff that worked on this with us.

Dan Wyant, Director
Department of Environmental Quality
517-373-7917
From: Wyant, Dan (DEQ)
Sent: Tuesday, April 16, 2013 6:51 AM
To: Sygo, Jim (DEQ); Creal, William (DEQ); Shekter Smith, Liane (DEQ)
Cc: Anderson, Madhu (DEQ)
Subject: FW: KWA and City of Flint

Bill and Liane,

Can you have your staff's take a quick look at this and let me know today if they think this changes their thoughts and comments to me last week.

Dan Wyant, Director
Department of Environmental Quality
517-373-7917
From: Dillon, Andy (Treasury)
Sent: Monday, April 15, 2013 7:55 PM
To: Wyant, Dan (DEQ); Dennis Muchmore; Roberts, John (GOV)
Cc: Stibitz, Brom (Treasury); Saxton, Thomas (Treasury)
Subject: Fwd: KWA and City of Flint

FYI

Dan, any thoughts re the attached?

We gave dwsd until today to put best offer on table. Flint is to get back to us tmrw. I want to make sure their expected rejection is made in good faith.

Sent from my iPad

Begin forwarded message
From: "Debra Ragland" <dragland@dwsd.org<mailto:dragland@dwsd.org>>
To: "ekurtz@cityofflint.com<mailto:ekurtz@cityofflint.com>" <ekurtz@cityofflint.com<mailto:ekurtz@cityofflint.com>>
Cc: "jwright@co.genesee.mi.us<mailto:jwright@co.genesee.mi.us>"
<jwright@co.genesee.mi.us<mailto:jwright@co.genesee.mi.us>>, "Dillon, Andy (Treasury)"
<DillonA2@michigan.gov<mailto:DillonA2@michigan.gov>>, "James Fausone"
<fausone@dwsd.org<mailto:fausone@dwsd.org>>, "orrk@detroitmi.gov<mailto:orrk@detroitmi.gov>"
<orrk@detroitmi.gov<mailto:orrk@detroitmi.gov>>, "Sue McCormick"
<mccormick@dwsd.org<mailto:mccormick@dwsd.org>>
Subject: KWA and City of Flint
Please see attached on behalf of Sue F. McCormick.

Faxed copy forwarded to Mayor Dayne Walling and Jeff Wright.

CITY OF DETROIT
News Release
Water and Sewerage Department
Dave Bing, Mayor

FOR IMMEDIATE RELEASE
Date: Wednesday, April 17, 2013

Media Contact:
Mary Alfonso, DWSD (313) 964-9477

DWSD DIRECTOR MAKES STATEMENT ON FLINT'S DECISION

Statement by Director Sue F. McCormick, prepared by Bill Johnson for DWSD

On April 15, 2013, the Detroit Water and Sewerage (DWSD) presented a good faith, comprehensive proposal to the City of Flint, the Genesee County Drain Commission and the Karegnondi Water Authority (KWA).

The essential elements of the proposal were that it offered Flint/Genesee an opportunity to reserve capacity in the Lake Huron Treatment Plant and accept assignment of capital and operations costs from a specific facility under the terms of a Public/Partnership. The calculated savings included an immediate 50-percent reduction in water unit costs, and approximately $800 million in total savings over the term of the proposed 30-year contract.

It was disappointing that one day after our submission, Genesee County Drain Commissioner Jeff Wright and Ed Kurtz, Flint's emergency manager, summarily rejected our offer. We had pinned our hope on having the opportunity to have a meaningful discussion about the merits of our plan and the long-term benefits to Flint and its customers. Unfortunately, we were not afforded that opportunity this week or at any time during recent months.

We have subsequently advised Flint that the existing agreement we have with the city to provide water services is hereby terminated effectively one year from today's date (April 17, 2014).

We remain fully committed to holding harmless the remaining customers served by the DWSD system, up to and including all available legal options to recoup the "stranded costs" in the existing 25-mile pipeline, the Imlay Booster Station, and other facilities that primarily serve Flint and Genesee County.

We also remain open to engage Genesee County officials on any alternatives that would be mutually beneficial to DWSD and Flint going forward.

Please direct all media inquiries to Bill Johnson at (248) 840-1095.

# # #

From: BUSCHS@michigan.gov
Sent: Monday, September 28, 2015 5:40 PM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: Letter to Governor Regarding Flint Water
Attachments: 09.28.2015-letter-ananich-snyder-water-requests.pdf; ATT00001.htm

I didn't see you on the distribution list.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

From: The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
Date: September 28, 2015 at 4:07:45 PM EDT
To: "Jordan.Dickinson@mail.house.gov" <Jordan.Dickinson@mail.house.gov>, "mayor@cityofflint.com" <mayor@cityofflint.com>, "HCroft@cityofflint.com" <HCroft@cityofflint.com>, "hedman.susan@epa.gov" <hedman.susan@epa.gov>, "poy.thomas@epa.gov" <poy.thomas@epa.gov>, "Schock.michael@epa.gov" <Schock.michael@epa.gov>, "Lytle.darren@epa.gov" <Lytle.darren@epa.gov>, "fortin.denise@epa.gov" <fortin.denise@epa.gov>, "ShekterL@michigan.gov" <ShekterL@michigan.gov>, "Cookp@michigan.gov" <Cookp@michigan.gov>, "BuschS@michigan.gov" <BuschS@michigan.gov>, "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>, "Edwardsm@vt.edu" <Edwardsm@vt.edu>
Subject: Letter to Governor Regarding Flint Water

Good Afternoon,

Please see the attached letter that my office sent to Governor Rick Snyder earlier today. The letter contains a series of short, medium, and long-term requests to ensure access to safe drinking water in the City of Flint.

As I said in a statement to the press, my constituents and I believe the state must act urgently to provide concrete solutions to the public health crisis in the City of Flint. In speaking with Governor Snyder and his key aides today, I stressed the need to work together on a number of initiatives that will ensure safe water for Flint residents. My formal request included immediate and long-term solutions, and strong consideration for switching back to the Detroit water source until the Karegnondi Pipeline Authority project is complete. Anything less than an aggressive, comprehensive approach is simply unacceptable.

Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.

Sincerely,

The Office of State Senator Jim Ananich
Senate Minority Leader
District 27

SENATE MINORITY LEADER
JIM ANANICH

517.373.0142
senjananich@senate.michigan.gov
senatedems.com/ananich

September 28, 2015

State of Michigan
Executive Office of the Governor
P.O. Box 30013
Lansing, MI 48909

Governor Snyder,

Access to safe, affordable drinking water is a basic necessity for every community. It is completely unacceptable that respected scientific experts and our trusted local physicians have verified that the City of Flint's drinking water is dangerous for our citizens, especially our most vulnerable young people.

As a result, I am formally requesting assistance as suggested by the experts on the frontline of this public health crisis. Here are the top priorities we should work together to address:

1. **Swift transfer to a safe source of water until the Karegnondi Water Authority (KWA) project is complete next year.** Your administration has the ability to ensure a financially acceptable and responsible contract between Flint and the Detroit Water and Sewerage Department, particularly in light of the public health implications with the Flint River supply.

2. **Equally urgent is the need for corrosion control as recommended by independent scientific experts.** There are chemical treatment additives that could help reduce this corrosion. I urge you to help the city implement anti-corrosion methods immediately. The current emergency makes the January timeline unacceptable.

3. **Filters and bottled water assistance.** Flint water touches the entire city. Whether it's a person's home, work, school, restaurant or place of worship, access to safe, clean drinking water should not be hindered. Water filters, used in conjunction with corrosion control methods, are necessary to help guard against toxic exposure.

   I have been working with the philanthropic community and private sector to secure donations to acquire filters and water; however, more funds will be necessary to effectively cover the thousands of residents impacted. I would like to formally request emergency funding to help supplement the acquisition of water filters and bottled water. Any and all appropriate state or federal money to help accomplish this feat should be considered.

SENATE MINORITY LEADER
JIM ANANICH

517.373.0142
senjananich@senate.michigan.gov
senatedems.com/ananich

4. **Support for completion of the KWA pipeline.** It is presumed that the upcoming KWA pipeline will solve a number of problems associated with the current sourcing of Flint's water from the Flint River. I am requesting a meeting between representatives from your office, KWA board members and project engineers to discuss any options to expedite the pipeline's construction.

5. **A long-term commitment to addressing outdated infrastructure.** A recent EPA report just outlined the billions of dollars necessary over the next several decades to adequately secure safe water for our entire state. You have the position and opportunity to be a national leader on moving the debate forward on this topic so that we can avoid the type of catastrophe my community is grappling with today.

I look forward to working with you to deliver on these concrete and urgent action items to alleviate the public health crisis facing our residents.

We jeopardize any progress and comeback for our cities and state if we cannot ensure safe, basic necessities for our families or if we cannot come together swiftly to fix an identified, severe threat to the safety of our people.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

cc:
U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

To: Wurfel, Brad (DEQ); Pallone, Maggie (DEQ); Wyant, Dan (DEQ)
Cc: Tommasulo, Karen (DEQ)
Subject: FW: School Supply Line Information - Invitation to view
Attachments: School water supply lines.xls

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Prysby, Mike (DEQ)
Sent: Wednesday, September 30, 2015 3:23 PM
To: Busch, Stephen (DEQ)
Subject: FW: School Supply Line Information - Invitation to view

Steve,

Below is the information that Robert compiled concerning number of schools served by Flint and their service line material. I couldn't the Goggle map application to open...it will be interesting to compare the listing of schools from LHD's lead sampling.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Robert Bincsik [mailto:rbincsik@cityofflint.com]
Sent: Wednesday, September 30, 2015 3:17 PM
To: Prysby, Mike (DEQ)
Subject: Fwd: School Supply Line Information - Invitation to view

Mike please find attached of list of what I believe to be all the active school buildings in Flint. Also there is a google map of their location. Hope this is what you're looking for if you need anything else please let me know and I will try to help in any way I can.

aroberts@cityofflint.com has invited you to view the following map:

School Supply Line Information

Google My Maps is an easy-to-use map app for collaboratively authoring, maintaining or making decisions around maps.



--
Thank you,

Robert Bincsik
Water Service Center Supervisor
City of Flint
3310 E. Court Street
Flint, MI 48506
Ph: 810.766.7202 ext. 3413
Fx: 810.743.5758

	A	B	C	D	E	F
1	Row #	School Name	Street Address	Supply line size, inches	Supply line material	Map page
2	1	Brownell K2 Stem Academy	6302 Oxley Dr., Flint, MI 48504	4	cast iron	D-2 mains
3	2	Doyle Ryder Elementary School	1040 N. Saginaw St., Flint, MI 48503	4	cast iron	H-10 mains
4	3	Durant-Tuuri-Mott Elementary School	1518 University Ave., Flint, MI 48504	6	cast iron	F-12 mains
5	4	Eisenhower Elementary School	1235 Pershing St., Flint, MI 48503	4	cast iron	F-14 mains
6	5	Freeman Elementary School	4001 Ogema Ave., Flint, MI 48507	4	cast iron	K-17 mains
7	6	Holmes 3-6 Stem Academy	6602 Oxley Dr., Flint, MI 48504	6	cast iron	D-2 mains
8	7	Neithercut Elementary School	2010 Crestbrook Ln., Flint, MI 48507	4	cast iron	F-17 mains
9	8	Pierce Elementary School	1101 W. Vernon Dr., Flint, MI 48503	(n/a)	(n/a)	K-12 mains
10	9	Potter Elementary School	2500 N. Averill Ave., Flint, MI 48506	4	cast iron	M-8 mains
11	10	Northridge Academy	530 W. Pierson Rd., Flint, MI 48505	4	cast iron	F-4 mains
12	11	International Academy of Flint	2820 S. Saginaw St., 48503	4	cast iron	I-15 mains
13	12	Richfield Public School Academy	3807 N. Center Rd., Flint, MI 48506	2	copper	N-6 curb box
14	13	Powers Catholic High School	1505 W. Court St., Flint, MI 48503	8	cast iron	F-14 mains
15	14	Michigan School for the Deaf	1235 W. Court St., Flint, MI 48503	8	cast iron	F-14 mains
16	15	Mott Middle College High School	1401 E. Court St., Flint, MI 48503	8	ductile iron	J-11 mains

	G	H	I
1	Street name	house no.	Notes
2	Oxley Dr.	6302	
3	N. Saginaw St.	1040	
4	University Ave.	1518	
5	Pershing St.	1235	
6	Ogema Ave.	4001	
7	Oxley Dr.	6602	
8	Crestbrook Ln.	2010	
9	W. Vernon Dr.	1101	only the 8 inch fire line noted on dwg.
10	N. Averill Ave.	2500	
11	W. Pierson Rd.	530	noted on dwg as St. Agnes Church and School
12	S. Saginaw St.	2820	noted on dwg as Lincoln School
13	N. Center Rd.	3807	
14	W. Court St.	1505	Also see G-14 mains
15	W. Court St.	1235	Also see G-14 mains
16	E. Court St.	1401	noted on dwg as "Student Center"

Sent: Thursday, October 01, 2015 8:25 PM
To: Wyant, Dan (DEQ);Wurfel, Brad (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ)
Subject: RE: talking points
Attachments: City of Flint PbCu15 8_17_15.pdf

See the second paragraph on page 2 of the attached for the technical definition. Since the WTP level was

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wyant, Dan (DEQ)
Sent: Thursday, October 01, 2015 7:51 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ); Pallone, Maggie (DEQ)
Subject: Fwd: talking points

Brad/Karen. Please add to my talking points.

Sent from my iPhone

Begin forwarded message:
From: "Hedman, Susan" <hedman.susan@epa.gov>
Date: October 1, 2015 at 7:26:59 PM EDT
To: "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
Subject: RE: talking points
Further to our conversation, please note that lead and copper monitoring is used to determine:

1) Whether corrosion control is optimized. Under 141.81(b)(3), a water system is deemed to have optimum corrosion control if it submits results of tap water monitoring that demonstrates for 2 consecutive six-month periods that the 90th percentile level is below 5 ug/L (ppb). Because Flint exceeded this level, the City is required to implement corrosion control – as noted in MDEQ's August 17th letter to the City of Flint which states: "Since the City did not meet these criteria in both the July–December 2014, and January-June 2015, sampling periods, the City must now recommend a treatment to fully optimize corrosion control treatment . . . ."

2) Whether the lead action level (15ug/L) has been exceeded. Under 141.84(a), systems that fail to meet the lead action level in tap samples after installing corrosion control treatment must replace lead service lines – 7% of the lead service lines in its distribution system.

From: Wyant, Dan (DEQ) [mailto:WyantD@michigan.gov]
Sent: Thursday, October 01, 2015 5:02 PM
To: Hedman, Susan
Subject: Fwd: talking points

Talking points. I will make the adjustment you and I talked about. Thanks for your help.

Sent from my iPhone

Begin forwarded message:
From: "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
Date: October 1, 2015 at 4:27:53 PM EDT
To: "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>, "Minicuci, Angela (DHHS)" <MinicuciA@michigan.gov>, "Eisner, Jennifer (DHHS)" <EisnerJ@michigan.gov>, "Hertel, Elizabeth (DHHS)" <HertelE@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Wurfel, Sara (GOV)" <Wurfels@michigan.gov>, "Murray, David (GOV)" <MurrayD1@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Paciorek, Josh (GOV)" <Paciorekj@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>
Subject: talking points
Here's the talking points we've been working from. Feel free to add DHHS' info.

Karen Tommasulo
Public Information Officer
Michigan Department of Environmental Quality
517-284-6716 | 517-599-5733
tommasulok@michigan.gov

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

DAN WYANT
DIRECTOR

August 17, 2015

Mr. Brent Wright
City of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear Mr. Wright:

SUBJECT: Flint, City of WSSN: 02310
Lead and Copper Monitoring of Drinking Water Taps

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), received your report for the monitoring period January 1, 2015, through June 30, 2015.

Action Levels	Results this monitoring period			
	90th Percentile	# of Samples Above Action Level	# of Samples Required	# of Samples Collected
Lead 15 parts per billion (ppb)	11 ppb	6	60	69
Copper 1.3 parts per million (ppm)	0.16 ppm	0	60	69

Ninety percent or more of the sites you tested are within action levels under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). These results must be reported on your 2015 Consumer Confidence Report (CCR) due to our office, your customers, and the local health department, by July 1, 2016. Also include the following statement in the CCR, regardless of the lead and copper levels:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.water.epa.gov/drink/info/lead.

Recent changes to the Lead and Copper Rule (LCR) require the water supply to provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of your customer notice by three months after the end of the monitoring period. To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit http://www.michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms under the Manuals, Forms and Brochures heading. Water supplies that fail to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule."

While the City's LCR compliance monitoring has continued to meet action level requirements, the LCR also requires all large systems (those serving over 50,000 people) to optimize corrosion control regardless of their 90th percentile lead concentration. One way to demonstrate fully optimized corrosion control treatment is through two consecutive six month rounds of LCR compliance monitoring in which the difference between the 90th percentile level and the highest source water lead concentration is less than the Practical Quantitative Level for lead (0.005 milligrams per liter). Since the City did not meet these criteria in both the July – December 2014, and January – June 2015, sampling periods, the City must now recommend a treatment to fully optimize corrosion control treatment within six months in accordance with requirements under Act 399, Administrative Rule 604f (R 325.10604f). **This recommendation must be provided to our office as soon as possible, but no later than January 1, 2016**.

However, given the past use of phosphate treatment by the Detroit Water and Sewerage Department (DWSD) to fully optimize corrosion control treatment when the City was a wholesale customer of DWSD, the ODWMA recommends the City select this as its recommended treatment option, and begin implementation as soon as possible to address ongoing concerns by customers regarding lead levels within their premise plumbing systems. Under the second step of this Rule, the DEQ can specify optimal corrosion control treatment.

Our office will inform you when monitoring needs to be conducted as part of the optimization of the implemented corrosion control treatment. Customer requested samples for lead shall continue to be collected and analyzed. Please make every attempt to select the same sites used in the previous monitoring period, giving Tier 1 sites first priority. If original sites are unavailable, select replacement sites based on the Tier 1, 2, and 3 criteria.

Please contact me at 517-284-6644 or rosenthala@michigan.gov at your earliest convenience to discuss how the City will be complying with the above requirements.

Sincerely,



Adam Rosenthal, Environmental Quality Analyst
Lansing District Office
Office of Drinking Water and Municipal Assistance

cc: Mr. Michael Glasgow, City of Flint

From: BUSCHS@michigan.gov
Sent: Friday, October 02, 2015 10:04 AM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Wurfel, Brad (DEQ)
Subject: Fwd: Flint WTP Lead Samples
Attachments: 7Laboratory Sample Report.htm; ATT00001.htm; 3Laboratory Sample Report.htm; ATT00002.htm; 6Laboratory Sample Report.htm; ATT00003.htm; 2Laboratory Sample Report.htm; ATT00004.htm; 1Laboratory Sample Report.htm; ATT00005.htm; 4Laboratory Sample Report.htm; ATT00006.htm; 5Laboratory Sample Report.htm; ATT00007.htm

Here's the summary of the WTP lead testing.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
Cc: "Richard Benzie P.E. (BENZIER@michigan.gov)" <BENZIER@michigan.gov>
Subject: Flint WTP Lead Samples

Karen,

The Flint WTP treated water plant tap shows non-detect lead results. The sample dates were:
8/11/2015 Non-detect
5/12/2015 Non-detect
2/16/2015 Non-detect
1/22/2015 Non-detect
10/28/2014 Non-detect
8/6/2014 Non-detect
5/22/2014 Non-detect

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF44687

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	10/28/2014 8:04:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	10/29/2014 11:15:14 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.62	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	143	20	mg/L	SM 2340 C
7440-23-5	SODIUM	18	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.02	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	60	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00006	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0014	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0080	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.012	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.012	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.033	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	0.0005	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	0.0005	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	ND	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	22	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:
A trip blank was not available for analysis with this sample.

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1
17:16:11 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF54660

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	2/16/2015 9:40:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	2/17/2015 10:46:51 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.57	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	180	20	mg/L	SM 2340 C
7440-23-5	SODIUM	25	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	ND	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	99	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0002	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.001	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0002	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00004	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0007	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0025	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.0018	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.0030	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.008	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0005	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	1.3	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	0.001	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	40	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

Endrin Aldehyde quality control results were outside allowed limits due to matrix interferences.
Unidentified hydrocarbon peak(s) were detected.

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:13:39 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT -WATER PLANT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF19430

Sample/Collection Information:

WSSN:	02310	Site Code:	LAB TAP
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT LAB
Collection Date:	5/22/2014 8:30:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	5/22/2014 1:19:53 PM	Collected By:	MICHAEL GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.16	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	209	20	mg/L	SM 2340 C
7440-23-5	SODIUM	15	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	79	4	mg/L	SM 4500-Cl E
7440-47-					

3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00006	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2

72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2
50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2

108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2
74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0010	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.013	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.022	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.020	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-					

4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2
75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.056	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	0.4	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	25	10	mg/L	SM 4500 SO4E
7440-28-					

0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:15:56 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF63412

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	5/12/2015 11:33:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	5/13/2015 11:26:43 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.87	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	163	20	mg/L	SM 2340 C
7440-23-5	SODIUM	18	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	90	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0002	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.001	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0002	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00004	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0013	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0077	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.0072	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.0099	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.026	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0005	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	ND	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	31	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:13:08 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF77582

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Routine Monitoring
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	8/11/2015 10:00:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	8/12/2015 1:21:17 PM	Collected By:	C BEATENHEAD

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.83	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	110	20	mg/L	SM 2340 C
7440-23-5	SODIUM	18	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.02	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
57-12-5	CYANIDE	ND	0.02	mg/L	OIA-1677
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	79	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8

93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4
93-72-1	2,4,5-TP (SILVEX)	ND	0.0002	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.001	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0002	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00004	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	ND	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2

50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2
60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2

74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
75-25-2	BROMOFORM	0.0013	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.0052	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.0015	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.0036	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2

75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2
91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.012	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0005	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	ND	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	ND	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	21	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

Matrix spike recovery was below the acceptance criteria due to the presence of residual chlorine in the sample. This does not affect the validity of the sample result.

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:12:44 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
4500 N DORT HWY
FLINT MI 48505

Sample Number: LLF52712

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Public Community Water Supply
Township:		Sample Reason:	Other
Section:		Sample Point:	Treated Public Distribution System
Well #:		Point Description:	PLANT TAP
Collection Date:	1/22/2015 10:00:00 AM	Collector:	Public Water Supply Operator
Arrival Date:	1/23/2015 8:37:00 AM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.01	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	0.001	0.001	mg/L	EPA 200.8
7440-28-					

0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:14:07 EDT 2015

Michigan Department of Environmental Quality

Replicate Laboratory Report for
Lansing Drinking Water Laboratory

Owner/Location Information:

CITY OF FLINT
CITY OF FLINT WATER PLANT
FLINT MI 48505

Sample Number: LLF31222

Sample/Collection Information:

WSSN:	02310	Site Code:	
County:	Genesee	Water Source:	Other
Township:		Sample Reason:	Other
Section:		Sample Point:	Other
Well #:		Point Description:	PLANT TAP
Collection Date:	8/6/2014 2:30:00 PM	Collector:	Public Water Supply Operator
Arrival Date:	8/6/2014 4:23:13 PM	Collected By:	MIKE GLASGOW

CasNo	Analyte	Result	Detect	Units	Method
16984-48-8	FLUORIDE (AUTOMATED)	0.70	0.1	mg/L	SM 4500 FC
7439-89-6	IRON	ND	0.1	mg/L	SM 3500 FeB
HARD-00-C	HARDNESS AS CaCO3	155	20	mg/L	SM 2340 C
7440-23-5	SODIUM	16	5	mg/L	SM 3500 NaB
7440-38-2	ARSENIC (TOTAL)	ND	0.002	mg/L	EPA 200.8
7440-39-3	BARIUM	0.03	0.01	mg/L	EPA 200.8
7440-41-7	BERYLLIUM	ND	0.0004	mg/L	EPA 200.8
7440-43-9	CADMIUM (TOTAL)	ND	0.0003	mg/L	EPA 200.8
7647-14-5	CHLORIDE (AUTOMATED)	61	4	mg/L	SM 4500-Cl E
7440-47-3	CHROMIUM (TOTAL)	ND	0.01	mg/L	EPA 200.8
93-76-5	2,4,5-T	ND	0.002	mg/L	EPA 515.4

93-72-1	2,4,5-TP (SILVEX)	ND	0.0003	mg/L	EPA 515.4
94-75-7	2,4-D	ND	0.002	mg/L	EPA 515.4
50594-66-6	ACIFLUORFEN	ND	0.004	mg/L	EPA 515.4
25057-89-0	BENTAZON	ND	0.002	mg/L	EPA 515.4
1918-00-9	DICAMBA	ND	0.002	mg/L	EPA 515.4
88-85-7	DINOSEB	ND	0.0003	mg/L	EPA 515.4
87-86-5	PENTACHLOROPHENOL	ND	0.00006	mg/L	EPA 515.4
1918-02-1	PICLORAM	ND	0.001	mg/L	EPA 515.4
1861-32-1	TOTAL DCPA, MONO & DI-ACID DEGRADATES	ND	0.001	mg/L	EPA 515.4
116-06-3	ALDICARB	ND	0.0005	mg/L	EPA 531.2
1646-88-4	ALDICARB SULFONE	ND	0.0005	mg/L	EPA 531.2
1646-87-3	ALDICARB SULFOXIDE	ND	0.0005	mg/L	EPA 531.2
63-25-2	CARBARYL	ND	0.001	mg/L	EPA 531.2
1563-66-2	CARBOFURAN	ND	0.0005	mg/L	EPA 531.2
16655-82-6	HYDROXYCARBOFURAN,3-	ND	0.001	mg/L	EPA 531.2
2032-65-7	METHIOCARB	ND	0.001	mg/L	EPA 531.2
16752-77-5	METHOMYL	ND	0.001	mg/L	EPA 531.2
23135-22-0	OXAMYL	ND	0.001	mg/L	EPA 531.2
114-26-1	PROPOXUR (BAYGON)	ND	0.001	mg/L	EPA 531.2
34256-82-1	ACETOCHLOR	ND	0.001	mg/L	EPA 525.2
15972-60-8	ALACHLOR	ND	0.0002	mg/L	EPA 525.2
309-00-2	ALDRIN	ND	0.0004	mg/L	EPA 525.2
1912-24-9	ATRAZINE	0.0003	0.0002	mg/L	EPA 525.2
5103-71-9	CHLORDANE, ALPHA-	ND	0.0002	mg/L	EPA 525.2
5103-74-2	CHLORDANE, GAMMA-	ND	0.0002	mg/L	EPA 525.2
72-54-8	DDD,4,4'-	ND	0.001	mg/L	EPA 525.2
72-55-9	DDE,4,4'-	ND	0.001	mg/L	EPA 525.2
50-29-3	DDT,4,4'-	ND	0.0005	mg/L	EPA 525.2

60-57-1	DIELDRIN	ND	0.0005	mg/L	EPA 525.2
72-20-8	ENDRIN	ND	0.0001	mg/L	EPA 525.2
7421-93-4	ENDRIN ALDEHYDE	ND	0.001	mg/L	EPA 525.2
76-44-8	HEPTACHLOR	ND	0.0002	mg/L	EPA 525.2
1024-57-3	HEPTACHLOR EPOXIDE	ND	0.0001	mg/L	EPA 525.2
118-74-1	HEXACHLOROBENZENE	ND	0.0001	mg/L	EPA 525.2
319-84-6	HEXACHLOROCYCLOHEXANE (ALPHA-BHC)	ND	0.001	mg/L	EPA 525.2
319-85-7	HEXACHLOROCYCLOHEXANE (BETA-BHC)	ND	0.001	mg/L	EPA 525.2
319-86-8	HEXACHLOROCYCLOHEXANE (DELTA-BHC)	ND	0.001	mg/L	EPA 525.2
77-47-4	HEXACHLOROCYCLOPENTADIENE	ND	0.0005	mg/L	EPA 525.2
58-89-9	LINDANE (GAMMA-BHC)	ND	0.0001	mg/L	EPA 525.2
72-43-5	METHOXYCHLOR	ND	0.0001	mg/L	EPA 525.2
51218-45-2	METOLACHLOR	ND	0.001	mg/L	EPA 525.2
21087-64-9	METRIBUZIN	ND	0.001	mg/L	EPA 525.2
2212-67-1	MOLINATE	ND	0.0005	mg/L	EPA 525.2
12674-11-2	PCB (AROCLOR 1016)	ND	0.0001	mg/L	EPA 525.2
11104-28-2	PCB (AROCLOR 1221)	ND	0.0001	mg/L	EPA 525.2
11141-16-5	PCB (AROCLOR 1232)	ND	0.0001	mg/L	EPA 525.2
53469-21-9	PCB (AROCLOR 1242)	ND	0.0001	mg/L	EPA 525.2
12672-29-6	PCB (AROCLOR 1248)	ND	0.0001	mg/L	EPA 525.2
11097-69-1	PCB (AROCLOR 1254)	ND	0.0001	mg/L	EPA 525.2
11096-82-5	PCB (AROCLOR 1260)	ND	0.0001	mg/L	EPA 525.2
59536-65-1	POLYBROMINATED BIPHENYLS	ND	0.0001	mg/L	EPA 525.2
122-34-9	SIMAZINE	ND	0.0002	mg/L	EPA 525.2
8001-35-2	TOXAPHENE	ND	0.001	mg/L	EPA 525.2
71-43-2	BENZENE	ND	0.0005	mg/L	EPA 524.2
108-86-1	BROMOBENZENE	ND	0.0005	mg/L	EPA 524.2
74-97-5	BROMOCHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2

75-25-2	BROMOFORM	0.0018	0.0005	mg/L	EPA 524.2
74-83-9	BROMOMETHANE	ND	0.001	mg/L	EPA 524.2
104-51-8	BUTYLBENZENE,NORMAL-	ND	0.0005	mg/L	EPA 524.2
135-98-8	BUTYLBENZENE,SEC-	ND	0.0005	mg/L	EPA 524.2
98-06-6	BUTYLBENZENE,TERT-	ND	0.0005	mg/L	EPA 524.2
56-23-5	CARBON TETRACHLORIDE	ND	0.0005	mg/L	EPA 524.2
108-90-7	CHLOROBENZENE	ND	0.0005	mg/L	EPA 524.2
124-48-1	CHLORODIBROMOMETHANE	0.015	0.0005	mg/L	EPA 524.2
75-00-3	CHLOROETHANE	ND	0.0005	mg/L	EPA 524.2
67-66-3	CHLOROFORM	0.045	0.0005	mg/L	EPA 524.2
74-87-3	CHLOROMETHANE	ND	0.0005	mg/L	EPA 524.2
95-49-8	CHLOROTOLUENE,2-	ND	0.0005	mg/L	EPA 524.2
106-43-4	CHLOROTOLUENE,4-	ND	0.0005	mg/L	EPA 524.2
74-95-3	DIBROMOMETHANE	ND	0.0005	mg/L	EPA 524.2
95-50-1	DICHLOROBENZENE,1,2-	ND	0.0005	mg/L	EPA 524.2
541-73-1	DICHLOROBENZENE,1,3-	ND	0.0005	mg/L	EPA 524.2
106-46-7	DICHLOROBENZENE,1,4-	ND	0.0005	mg/L	EPA 524.2
75-27-4	DICHLOROBROMOMETHANE	0.024	0.0005	mg/L	EPA 524.2
75-71-8	DICHLORODIFLUOROMETHANE	ND	0.001	mg/L	EPA 524.2
75-34-3	DICHLOROETHANE,1,1-	ND	0.0005	mg/L	EPA 524.2
107-06-2	DICHLOROETHANE,1,2-	ND	0.0005	mg/L	EPA 524.2
75-35-4	DICHLOROETHYLENE,1,1-	ND	0.0005	mg/L	EPA 524.2
156-59-2	DICHLOROETHYLENE,1,2-CIS	ND	0.0005	mg/L	EPA 524.2
156-60-5	DICHLOROETHYLENE,1,2-TRANS	ND	0.0005	mg/L	EPA 524.2
78-87-5	DICHLOROPROPANE,1,2-	ND	0.0005	mg/L	EPA 524.2
142-28-9	DICHLOROPROPANE,1,3-	ND	0.0005	mg/L	EPA 524.2
594-20-7	DICHLOROPROPANE,2,2-	ND	0.0005	mg/L	EPA 524.2
563-58-6	DICHLOROPROPENE,1,1-	ND	0.0005	mg/L	EPA 524.2
10061-01-5	DICHLOROPROPENE,1,3-CIS	ND	0.0005	mg/L	EPA 524.2
10061-02-6	DICHLOROPROPENE,1,3-TRANS	ND	0.0005	mg/L	EPA 524.2
100-41-4	ETHYLBENZENE	ND	0.0005	mg/L	EPA 524.2
75-69-4	FLUOROTRICHLOROMETHANE	ND	0.001	mg/L	EPA 524.2
87-68-3	HEXACHLOROBUTADIENE	ND	0.0005	mg/L	EPA 524.2
98-82-8	ISOPROPYL BENZENE	ND	0.0005	mg/L	EPA 524.2
99-87-6	ISOPROPYL TOLUENE, PARA-	ND	0.0005	mg/L	EPA 524.2
78-93-3	METHYL ETHYL KETONE	ND	0.005	mg/L	EPA 524.2
108-10-1	METHYL ISOBUTYL KETONE	ND	0.005	mg/L	EPA 524.2
1634-04-4	METHYL TERT-BUTYL ETHER	ND	0.001	mg/L	EPA 524.2
75-09-2	METHYLENE CHLORIDE	ND	0.0006	mg/L	EPA 524.2

91-20-3	NAPHTHALENE	ND	0.0005	mg/L	EPA 524.2
98-95-3	NITROBENZENE	ND	0.01	mg/L	EPA 524.2
103-65-1	PROPYLBENZENE, NORMAL-	ND	0.0005	mg/L	EPA 524.2
100-42-5	STYRENE	ND	0.0005	mg/L	EPA 524.2
630-20-6	TETRACHLOROETHANE,1,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-34-5	TETRACHLOROETHANE,1,1,2,2-	ND	0.0005	mg/L	EPA 524.2
127-18-4	TETRACHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
109-99-9	TETRAHYDROFURAN	ND	0.005	mg/L	EPA 524.2
108-88-3	TOLUENE	ND	0.0005	mg/L	EPA 524.2
TTHM-00-C	TOTAL TRIHALOMETHANES	0.086	NA	mg/L	EPA 524.2
87-61-6	TRICHLOROBENZENE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
120-82-1	TRICHLOROBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
71-55-6	TRICHLOROETHANE,1,1,1-	ND	0.0005	mg/L	EPA 524.2
79-00-5	TRICHLOROETHANE,1,1,2-	ND	0.0005	mg/L	EPA 524.2
79-01-6	TRICHLOROETHYLENE	ND	0.0005	mg/L	EPA 524.2
96-18-4	TRICHLOROPROPANE,1,2,3-	ND	0.0005	mg/L	EPA 524.2
95-63-6	TRIMETHYLBENZENE,1,2,4-	ND	0.0005	mg/L	EPA 524.2
108-67-8	TRIMETHYLBENZENE,1,3,5-	ND	0.0005	mg/L	EPA 524.2
75-01-4	VINYL CHLORIDE	ND	0.0004	mg/L	EPA 524.2
XYLMP-00-C	XYLENE,META-&PARA-	ND	0.0005	mg/L	EPA 524.2
95-47-6	XYLENE,ORTHO-	ND	0.0005	mg/L	EPA 524.2
1330-20-7	XYLENES (TOTAL)	ND	NA	mg/L	EPA 524.2
7439-97-6	MERCURY	ND	0.0001	mg/L	EPA 200.8
7440-02-0	NICKEL	ND	0.01	mg/L	EPA 200.8
14797-65-0	NITRITE AS N (AUTOMATED)	ND	0.05	mg/L	10-107-04-2-B
14797-55-8	NITRATE AS N (AUTOMATED)	0.5	0.4	mg/L	10-107-04-2-B
7439-92-1	LEAD (TOTAL)	ND	0.001	mg/L	EPA 200.8
7440-36-0	ANTIMONY	ND	0.0006	mg/L	EPA 200.8
7782-49-2	SELENIUM (TOTAL)	0.001	0.001	mg/L	EPA 200.8
14808-79-8	SULFATE (AUTOMATED)	23	10	mg/L	SM 4500 SO4E
7440-28-0	THALLIUM	ND	0.0002	mg/L	EPA 200.8

Laboratory Comments:

By authority of PA 368 of 1978 as amended.

Print Date: Thu Oct 1 17:15:37 EDT 2015

From:	Busch, Stephen (DEQ)
Sent:	Wednesday, March 27, 2013 1:39 PM
To:	Thelen, Mary Beth (DEQ);Wyant, Dan (DEQ);Sygo, Jim (DEQ);Shekter Smith, Liane (DEQ)
Cc:	Willard, Veronica (DEQ);Richard Benzie P.E. (BENZIER@michigan.gov);prysbym@michigan.gov;Jon Bloemker P.E. (BLOEMKERJ@michigan.gov);Donaldson, Kristina (DEQ);Creal, William (DEQ)
Subject:	ODWMA Response - Flint KWA-DWSD Report
Attachments:	deq-wb-dwehs-wwciu-gcdclqwwpermitresponsepubliccomment_290345_7.pdf; Rowe Review of Tucker Young Report.pdf
Importance:	High

Director Wyant, and Deputy Director Sygo,

Addendums to ODWMA comments provided yesterday regarding the City of Flint water system and comments on the reports from Tucker, Young, Jackson, Tull, Inc. (TYJT) can be found below in **red**. Additional comments are as follows:

With regards to regulatory authority for DEQ to allow or prevent the breakup of water utilities, and State vs. local decisions about cost effectiveness, it is important to note that when the DEQ permitted the water withdrawal for KWA (permit 2009-001) part of the decision making process (copy attached) included reasonable use and the balance of Economic Development, Social Development, and Environmental Protection. As part of the public participation process general comments were received (pages 6 & 7) regarding impacts on DWSD and rates to remaining customers. The Department's response to those comments stated:

"The DEQ is specifically precluded from using part 327 to "…diminish or create any existing authority of municipalities to require persons to connect to municipal water supply systems as authorized by law" (MCL 324.32726)."

And

"It is appropriately an issue for water service contract negotiations between the regional water system and its customers. To do otherwise invites unwanted intervention of the state into local decision making."

ODWMA cannot on its own assess an actual dollar value to any regional benefit for the City of Flint to remain a full customer of DWSD, but the following should be included in any additional analysis:

- The cost estimates provided in the TYJT report show a cost difference between full KWA and full DWSD participation of $172 million over 30 years.
- The formation of KWA would itself be considered one of the largest regional drinking water authorities in the State in terms of capacity, and as such any regional benefits provided by DWSD may only be marginal in comparison.

Finally, we have additional questions for TYJT regarding the various DWSD supply options and the considerations they made in the operations of the Flint WTP. These considerations will have an impact on the cost estimates for DWSD options.

We look forward to further discussion of these comments during our meetings tomorrow, and please let us know if you have any additional questions for us between now and then.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 26, 2013 3:58 PM
To: Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ)
Cc: Willard, Veronica (DEQ); Shekter Smith, Liane (DEQ)
Subject: RE: Flint Draft Response

I will provide additional follow up by tomorrow (Wed.) afternoon to my previous email below based on our discussion and the conference call with Andy Dillon earlier today.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 26, 2013 12:37 PM
To: Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ)
Cc: Willard, Veronica (DEQ); Shekter Smith, Liane (DEQ)
Subject: Flint Draft Response

Director Wyant,

In preparation for our call today with Treasurer Dillon's office, ODWMA has developed the following for consideration. We can provide any additional info you require during the meeting.

ODWMA has reviewed the materials developed by the consultant Tucker, Young, Jackson, Tull, Inc. (TYJT) for Treasury regarding the City of Flint and potential alternatives for public water supply. Based on our reviews, we have developed the following comments to this point in our analysis:

1. The TYJT report does not contain the full scope of the Karegnondi Water Authority (KWA) raw water supply system. TYJT concerns over raw water supply redundancy and reliability are addressed to the satisfaction of ODWMA under the full KWA proposal. Please note some portions of the overall project are being financed independently by the Genesee County Drain Commission.

2. There are significant differences in contract language between KWA and Detroit Water and Sewerage Department (DWSD) with respect to the contracted maximum day demand capacity.
    a. Under a KWA contract, a "maximum day" capacity of 18 million gallons per day (MGD) would fully satisfy current demands of the City of Flint, <u>without</u> the need to supplement raw water capacity using the Flint River. (18 MGD, average over a 30 day period).
    b. Under a DWSD model contract, a "maximum day" capacity, even at 18 MGD, would not satisfy the current demands for the City of Flint. (18 MGD, over any 24 hour period).

3. Restrictions in contracted capacity that would prevent the City of Flint from meeting peak demand requirements present potential limits to economic development within the City of Flint, including possible connection bans and water system extension bans. This information was previously conveyed to the City of Flint by ODWMA staff.

4. All contract options with DWSD that are considered semi-competitive with the KWA contract do not fully supply the City of Flint, and would require the City of Flint to meet a significant, if not majority, of its water demands by treating water from the Flint River. Continuous use of the Flint River at such demand rates would:
    a. Pose an increased microbial risk to public health (Flint River vs. Lake Huron source water)
    b. Pose an increased risk of disinfection by-product (carcinogen) exposure to public health (Flint River vs. Lake Huron source water)
    c. Trigger additional regulatory requirements under the Michigan Safe Drinking Water Act (LT2ESWTR)
    d. Require significant enhancements to treatment at the Flint WTP, beyond those identified in the TYJT report (see item 5 below).
    e. Water Resource Division is evaluating potential impacts to NPDES wastewater discharge permits in downstream segments of the Flint River, as a result of decreased river baseflow caused by Flint WTP use.

5. The TYJT report does not adequately address increased requirements and costs associated with using the Flint River as a significant source for the Flint WTP, which are not necessary under a Lake Huron source water scenario. This includes:
    a. The need to provide softening treatment
    b. Limitations on disposal options for lime softening sludge
    c. Increased ozone capacity, UV disinfection
    d. Additional backup power, more power required for Flint River operation

6. The Flint WTP must operate at some minimum level and within a range of flow rates to maintain treatment effectiveness. Currently that minimum level is 9 MGD. This level may be reduced with additional capital costs to modify the WTP, not addressed in the TYJT report.

7. Allowing Flint WTP to blend water with DWSD sets a new precedent that could pose future consequences with other DWSD customers.

8. Costs impacts to remaining DWSD customers would be similar under the proposed scenarios, only retaining 8 MGD of 30+ MGD total Flint/Genesee Co. demands, based on the following:
    a. Genesee County distribution system demands are pulling out of DWSD regardless of the decisions by Flint WTP
    b. Flint's need to utilize the Flint River as a source

9. ODWMA anticipates cost savings under the KWA proposal will be leveraged to provide additional improvements to the City of Flint water distribution system, improving efficiency and providing additional cost benefits. The KWA water withdrawal permit (2009-001) includes the required implementation of conservation measures that would also drive these distribution system improvements.

10. Major cost discrepancies in TYJT analysis
    a. Engineering, Legal, Administration, Contingency – TYJT appears to have effectively double charged for these costs in their KWA estimates without adequate justification
    b. Pumping facilities – TYJT cost estimate methodology does not appear to address localized market costs and does not distinguish fixed and variable costs in its comparison analysis.

11. Remaining DWSD customers in Lapeer County could potentially see water quality impacts as a result of Flint joining KWA, if they remain with DWSD. However, indications to ODWMA are that these communities are currently in final negotiations with KWA for service, which would make this a non-issue.
    a. City Lapeer
    b. City of Imlay City

Additional response to the TYJT report has also been provided by Rowe Engineering to Flint EFM, Mr. Ed Kurtz. (Copy Attached)

ODWMA has continued to meet on a regular basis with KWA, Genesee County, and the City of Flint regarding these water supply proposals.

ODWMA will continue to provide any additional detailed analysis requested by Treasury or the DEQ Executive Office.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

GENESEE COUNTY DRAIN COMMISSION
APPLICATION FOR A WATER WITHDRAWAL FROM LAKE HURON

PERMIT DECISION
And
RESPONSE TO PUBLIC COMMENTS

August 28, 2009

Michigan Department of Environmental Quality
Constitution Hall, 525 West Allegan
P.O. Box 30273
Lansing, Michigan 48909-7773

EXECUTIVE SUMMARY

GENESEE COUNTY DRAIN COMMISSION
APPLICATION FOR A WATER WITHDRAWAL FROM LAKE HURON

On February 12, 2009, the Department of Environmental Quality (DEQ) received from the Genesee County Drain Commission (GCDC) a permit application submitted under Section 32723 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The permit application included a request that the DEQ begin the required evaluation and public notice under Part 327, Great Lakes Preservation, of NREPA for a proposed water withdrawal from Lake Huron.

Section 32723(4) of Part 327 requires that the DEQ provide for a public comment period of not less than 45 days before a permit application is acted upon. The DEQ invited public comment on the permit application via press release, public notice and website posting. The DEQ issued the press release on the permit application on May 27, 2009, and posted the public notice on the DEQ internet website the following day. A copy of the public notice was transmitted to the GCDC on May 28, 2009 for posting at the entrance to their premises and at the shoreline parcel where a "shore well and pumping station" are to be constructed. The press release and public notice announced the public comment period and requested that comment be submitted to the DEQ by July 15, 2009.

After considering the information submitted relevant to the factors used in determining the acceptability of a permit application and the comments received, the DEQ determined that the proposed GCDC withdrawal is in compliance with the applicable standards and should be issued.

On August 28, 2009, the DEQ rendered a decision in favor of issuing the permit concluding the GCDC proposed withdrawal would not likely cause an adverse resource impact and that all other factors in rendering a permit decision had been met.

This document includes the basis of decision for issuance of a permit to the GCDC for the future withdrawal of 85 MGD from Lake Huron. Responses are provided to comments received on the permit application during the public comment period that including concerns relating to the permit process, the environmental impact of the proposed water withdrawal, the legality of the proposed water use, and the applicability of laws and regulations to the proposed withdrawal.

Many of the early comments were critical of the public notice and comment period duration regarding the permit application. The DEQ is limited in its ability to provide public comment by a Part 327 statutorily required time frame for responding to the permit application. The DEQ recognizes that this is the first application for a permit to withdraw water from a Great Lake that is subject to the standards of Part 327, the Great Lakes Charter process, the standards-of-decision in the Great Lakes-St. Lawrence River Basin Water Resources Compact, and the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement. Therefore, the DEQ reviewed additional comments received after the public comment period for consideration in application and functionality of the administrative process on this and future permit applications.

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I. BACKGROUND

Proposed Withdrawal

The proposed 85 million gallons per day (MGD) water withdrawal is from a Lake Huron water intake. The permit applicant, Genesee County Drain Commission (GCDC), proposes to use the withdrawal water for a community public water supply system, to be owned and operated by a collection of municipalities organized as the Karegnondi Water Authority (KWA). The proposed withdrawal will be via a Lake Huron water intake located approximately 3.5 miles offshore and a shore well and pumping facilities located in the south of section 31 and 32, Worth Township, T.9N, R.17E, Sanilac County, Michigan. The maximum proposed withdrawal of 85 MGD, corresponds to a maximum pumping rate of ~59,000 gallons per minute (gpm).

Public water supply is a use that the DEQ estimates to be 10 percent consumptive. While 90 percent of the water will remain in the Lake Huron watershed, the consumptive use estimate places the loss from the Great Lakes hydrologic system at 8.5 MGD.

II. STATUTORY STANDARD

A person who proposes to develop a new withdrawal of 2 MGD or more from the waters of the state to supply a common distribution system, is required to obtain a water withdrawal permit prior to making the withdrawal (MCL 324.32723[1]).

Application Submittal

A person proposing a withdrawal from the surface waters of the state is required to apply for a permit by submitting an application for the withdrawal to the DEQ containing the following information (MCL 324.32723[2]):

- Capacity of equipment used to make the withdrawal,
- Location of the withdrawal,
- Withdrawal source,
- Amount and rate of withdrawal,
- Intended maximum monthly and annual volumes and rates, if different from the capacity of equipment used to make the withdrawal,
- Relevant information related to seasonal use,
- Description of how the water will be used and location, amount and rate of return flow,
- Any other information the person would like the DEQ to consider.

The application is required to include an evaluation of existing hydrological and hydrogeological conditions and a detailed description of proposed preventative measures where relevant. In addition, the applicant is required to submit an application fee in the amount of $2000.00

Administrative Requirements

MCL 324.32723 requires the department to determine whether a permit application is administratively complete. The DEQ has 30 days to make this determination, unless the applicant is notified of deficiencies in the application requiring additional information. Once an application is determined to be administratively complete, the DEQ is required to provide a public comment period of not less than 45 days and render a decision on the permit application within 120 days from the completeness determination.

The DEQ received the original permit application from the GCDC on February 12, 2009. The information was submitted in accordance with Part 327, and "proposals subject to prior notice and consultation" of The Great Lakes Charter, Principles for the Management of Great Lakes Water Resources (The Charter). On March 4, 2009 the DEQ requested additional information to better fulfill the information requirements of The Charter essential to the administrative

process. Upon receipt of the additional information the DEQ sent a letter to the GCDC dated April 24, 2009 notifying them of the completeness of the application package.

The DEQ invited public comment on the permit application via press release, public notice and website posting. The press release was issued on May 27, 2009, and the posting of the public notice on the DEQ internet website on May 28, 2009. The GCDC was provided a copy of the public notice on May 28, 2009 for posting at the entrance to their premises and at the shoreline parcel where the proposed shore well and pumping station are to be constructed. The press release and public notice announced the 45-day public comment period and requested that comments be submitted to the DEQ by July 15, 2009.

The consumptive use estimate of 8.5 MGD exceeds the 5 MGD threshold established in the Charter for proposed withdrawals requiring Prior Notice and Consultation with the other Great Lakes states and provinces. In the spirit of the companion legislation adopted by the state of Michigan in conjunction with the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact), and pursuant to the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (Agreement), the DEQ's Office of the Great Lakes provided notice of the proposed withdrawal on May 26, 2009. The complete application packet was transmitted to the other Great Lakes states, the Canadian provinces of Ontario and Quebec, and the Great Lakes first nation and federally recognized tribes, with a request that comments be provided by July 20, 2009 in order for the DEQ to meet the statutory obligations of Part 327.

Conditions Required for Issuance of a Permit

The DEQ is required to issue a permit for a water withdrawal if all of the following conditions are met (MCL 324.32723[6]):

- All water withdrawn, less any consumptive use, is returned to the source watershed;
- The withdrawal is implemented to insure there is no individual or cumulative adverse resource impact (ARI). Cumulative impacts are to be evaluated based upon available information gathered by the DEQ;
- The withdrawal will be implemented in compliance with all applicable local, state, and federal laws, as well as all legally binding regional interstate and international agreements;
- The proposed use is reasonable;
- The permit applicant certifies compliance with the environmentally sound and economically feasible water conservation measures for the applicable water use sector; and
- The proposed withdrawal does not violate public or private rights and limitations imposed by Michigan water law or other common law duties.

Parallel requirements for approval are spelled out in Section 4.11, Decision Making Standard, of the Compact. Section 4.11(5) of the Compact provides greater specificity on reasonable use conditions and requires the parties to consider efficient use of the water; efficient use of existing water supplies; the balance between economic and social development and environmental protection as they relate to other planned withdrawals and uses sharing the same source; supply potential; the degree and duration of likely adverse impacts and the restoration of hydrologic conditions.

III. DECISION MAKING PROCESS

Consumptive Use Considerations

The consumptive use calculation was based upon a consumptive use coefficient of 10 percent. The DEQ relied primarily upon the United State Geological Survey publication "Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas," Scientific Investigation Report 2007-5197. There is a relatively narrow range of coefficients for public water supplies in comparison with many of the other types of uses. Further, it is generally conceded the range is 10 to 15 percent as identified in Table 3-1, Consumptive-use coefficient used by Great Lakes jurisdictions, by water use category of the report. Upon review of the aforementioned report, the DEQ ultimately decided that 10 percent was the best estimate of consumptive use. This is the published value for the public water supply sector in Table 3-2, Total water use by category for the Great Lakes Basin, by year, from the Great Lakes Commission annual reports, 1998-2002. Based upon the 10 percent coefficient for consumptive use, the proposed withdrawal is projected to have a maximum consumptive use of 8.5 MGD.

Adverse Resource Impacts

Section 32721(1) of Part 327 prohibits a person from making a "…new or increased large quantity withdrawal from the waters of the state that causes an adverse resource impact." Section 32701(1)(a)(vii) defines an adverse resource impact (ARI) for a surface water body as "decreasing the level of a lake or pond with a surface area of 5 acres or more through a direct withdrawal from the lake or pond in a manner that would impair or destroy the lake or pond or the uses made of the lake or pond, including the ability of the lake or pond to support characteristic fish populations, or such that the ability of the lake or pond to support characteristic fish populations is functionally impaired." For flowing streams and rivers an ARI is defined as decreasing the flow by part of the index flow such that the ability of the stream to support the characteristic fish population is functionally impaired.

Part 327 establishes specific flow reduction as constituting an ARI for some stream types. No specific flow reductions are established for the Great Lakes or their connecting channels. In that case, a comparison of the proposed withdrawal to the water availability from the GL or connecting channel from which the withdrawal originates is one means of assessing the likelihood of an ARI. The proposed withdrawal of 85 MGD corresponds to a daily withdrawal of 1.136×10^7 cubic feet per day (ft^3/day) or 4.148×10^9 cubic feet per year (ft^3/year). The area of Lake Huron and Lake Michigan, which hydraulically act as a single source at the same elevation, possess a combined surface area of 45,300 square miles, or 1.263×10^{12} ft^2. Based upon a consumptive use of 10 percent a withdrawal of 4.148×10^9 cubic feet per year (ft^3/year) would result in a projected loss of water from the Great Lakes Basin of 4.148×10^8 ft^3/year. Assuming no recharge to lakes Michigan and Huron the consumptive use loss is projected to cause a reduction in lake levels of 0.0003284 feet (0.004 inches or 0.01 centimeter). Accordingly, the DEQ concludes the impact of the proposed 85 MGD withdrawal on lake levels and the corresponding impact to the characteristic fish population would not result in an ARI as defined in Part 327.

A comparison of the proposed withdrawal to flows immediately down stream of the proposed intake in the St. Clair River provides another reasonable measure of water availability and the potential for impact. The United States Geological Survey has published average flows for the St. Clair River in excess of 183,000 cubic feet per second, corresponding to a daily flow of ~118,268 MGD. When consideration is given to return flows and consumptive use, the water theoretically lost from Lake Huron of 8.5 MGD corresponds to 0.0072 percent of the total flow.

The DEQ concludes from this comparison that the proposed withdrawal would be insufficient to cause an ARI as defined in Part 327.

Applicable Local, State and Federal Laws

To be approved, the proposed withdrawal must be in compliance with all applicable local, state, and federal laws as well as legally binding interstate and international agreements, including the boundary waters treaty of 1909. Section 32726 governing local ordinances, specifically prohibits a local unit of government from enacting, or enforcing an ordinance that regulates a large quantity withdrawal. The information contained within the permit application indicates the withdrawal would be implemented in compliance with applicable state and federal laws (Part 327) and applicable international agreements. The Boundary Waters Treaty of 1909 was agreed to by the U.S. and Canada to provide a mechanism for the resolution of disputes over waters bordering the two countries and to insure the waters of the Great Lakes remain navigable. Nothing related to the GCDC proposed withdrawal volumes would be in violation of the treaty.

Reasonable Use

Part 327 requires that a proposed use be reasonable. As noted above the specific criteria for consideration the efficient use of the water and the efficient use of existing water supplies; a consideration of the balance between economic development, social development and environmental protect, supply potential; the degree and duration of likely adverse impacts and the restoration of hydrologic conditions. These considerations are consistent with Michigan's test for determining a reasonable use as set forth in Michigan Citizen for Water Conservation V. Nestle Waters of North America, Inc. [Michigan Citizens for Water Conservation v Nestlé Waters N America Inc, 269 Mich App 25; 709 NW2d 174 (2005)]. The considerations are addressed as follows:

Efficient Use of the Water: This requirement is directly tied to the user's commitment to Environmentally Sound and Economically Feasible Water Conservation Measures. (Conservation Measures) In the application the GCDC identified the Conservation Measures applicable to the public water supply sector that they are currently employing. A more comprehensive discussion is provided in the section entitled Conservation Measures on page 6.

Efficient Use of Existing Water Supplies: The language of the Compact specifies efficient use as a consideration when an increased withdrawal is proposed. The Compact language is intended to assure that water from various sources is being efficiently used by a large quantity user before they are granted approval for an increased withdrawal. Since the GCDC proposal is for a new withdrawal, this criterion does not apply.

Balance between Economic Development, Social Development and Environmental Protection: Reasonableness of a water use as it relates to the balance between economic development, social development and environmental protection is an important consideration in the acceptability of a proposed withdrawal.

Creation of a water authority and construction of the pipeline and treatment plants would enhance economic development in a variety of ways. During the 5-year construction period there project would provide an estimated $100 million in skilled trades work, $200 million in manufacturing of pipe and other equipment and 30 million in engineering and design services. Once on line the new pipeline and associated facilities is estimated to create over 50 new jobs necessary to the operation and maintenance treatment facilities, the Great Lakes intake, pipeline, and pump stations. Improving system reliability, as discussed below will also encourage economic development in the affected communities.

From a social standpoint, the proposed withdrawal and related facilities would benefit the area by enhancing the health, safety and security of area residents. The DEQ, Water Bureau (WB)

has identified deficiencies in the GCDC system primarily related to reliability. Significant effort will be placed on improving current system reliability in the design of system components associated with the proposed withdrawal. These efforts will meet with the requirements of the Safe Drinking Water Act. With the construction of new facilities the GCDC would also be improving system reliability for surrounding public water supply systems by offering emergency inter-connects and entering into mutual aid agreements.

Lastly, given the net effect of the withdrawal on the water resources as described above, these economic and social benefits to the area would be obtained without a perceptible impact on the environment.

Supply Potential: Supply potential consideration requires the DEQ look at the impact of the withdrawal on the quantity, quality, reliability, and safe yield of hydrologically interconnected water sources. The proposed withdrawal does not present any known or anticipated threat to the quantity or quality of Lake Huron as a water source. Also, the proposed withdrawal would have no impact on the reliability or the safe yield of the source as it relates to others using Lake Huron or hydrologically connected sources, such as the St. Clair/Detroit river systems.

Degree and Duration of Likely Adverse Impacts: The DEQ concluded the proposed withdrawal would not cause an ARI.

Restoration of Hydrologic Conditions: The water withdrawn by the GCDC, less consumptive use, would all be returned to the source watershed via treated wastewater discharges to the Flint River. The consumptive use losses for inside Great Lakes Basin uses are considered reasonable. Under Part 327 the restoration of hydrologic conditions does not apply to the proposed withdrawal.

Conservation Measures

For permit applications received on or after January 1, 2009, the applicant must self-certify that they are in compliance with Conservation Measures. More specifically they must certify that they are in compliance with the Conservation Measures developed by the applicable water user's sector or developed for the water use associated with that specific withdrawal (MCL 324.32723[6(e)]).

The GCDC has certified that they are in compliance with the accepted practices as developed and submitted to the DEQ for the public water supply sector by the Michigan Section of the American Water Works Association and set a goal of a less than 5 percent system wide water loss. GCDC further certifies to the promotion of educational programs related to lawn sprinkling and other outside uses, and the implementation of programs to promote water re-use and other water conservation measures by commercial and industrial facilities. The GCDC also practices "flat rate water billing," meaning large users do not pay proportionally less as their water use goes up. All water uses served by the GCDC are metered and billing is commensurate with the metered water usage. Lastly, the GCDC employs a local ordinance restricting outdoor water use during periods of peak use.

Public or Private Rights, Limitations and Common Law

The issuance of a permit on the proposed withdrawal must not violate public or private rights or interfere with limitations imposed on the use of the resource by Michigan water law or other common law decisions. Specifically, the DEQ must ascertain if the issuance of the permit would interfere with the principle that certain natural resources, which in this case is Lake Huron, are preserved for public use, and that the state is required to maintain the resource for the public's reasonable use. The issuance of a permit for the proposed withdrawal would not interfere with the public's access to Lake Huron, the public interest in Lake Huron as a natural resource, or maintenance of Lake Huron for drinking and recreational purposes.

VI. PUBLIC PARTICIPATION PROCESS

The DEQ invited public comment on the permit application via press release, public notice and website posting. The press release was issued on May 27, 2009, and the posting of the public notice on the DEQ internet website on May 28, 2009. The web posting included the permit application packet for the proposed withdrawal and the public notice announcement. The press release and public notice announced the public comment period and requested comments be submitted to the DEQ by July 15, 2009.

The Office of the Great Lakes provided notice of the proposed withdrawal on May 26, 2009, to the other Great Lakes states, provinces and federally recognized tribes and first nations. The notice included a request that comments be provided by July 20, 2009.

The remainder of this document summarizes the comments received based on the proposed 85 MGD withdrawal by the GCDC and the DEQ response to the comments on the basis of applicable rule, policy, and procedure in administration of the permit application and review process under Part 327, Great Lakes Preservation, of NREPA.

General Comments

Many of the comments were specific to ongoing negotiations between the GCDC and the City of Detroit relative to the continued provisions for water supply service from the Detroit Water and Sewer Department (DWSD).

It was expressed by some commenters that the GCDC proposal underestimates the reliability of the DWSD public water supply system noting that DWSD possesses sufficient capacity and has an approved proposal to provide the GCDC the desired redundancy. Conversely, it was claimed the request for redundancy was made in 1965 with reciprocal commitment to construct the necessary infrastructure over the past 30 years.

A comment was made that constructing a new intake does not appropriately address deficiencies in either the GCDC or DWSD systems. As an example, there was a reference to ongoing system losses for the GCDC and DWSD of 5 percent versus 20 percent of water pumped.

Multiple comments were received with regards to the impact on water rates for DWSD customers if the KWA member municipalities were to withdraw from the DWSD system. Rate increases for the remaining DWSD customers was estimated at approximately 6 percent. A counter argument was made that the loss of a customer should not affect remaining customer rates as costs are presumably based on "cost of service."

There was a claim that the cost of the intake structure, transmission line, and separate treatment facilities for the KWA would be much greater than provided in the preliminary estimates. Conversely, The GCDC claims that all potential KWA members are aware of the cost estimates. The intake and pipeline costs are estimated at 75 percent of costs, including plans for redundancy while the treatment costs will be 25 percent of costs. GCDC also noted that separate studies on the cost of various water supply alternatives should have no bearing on the permit decision.

Response to Comments: The DEQ does not consider any comments on the relative position of the DWSD and GCDC water supply system to be legally relevant to a decision as to whether or not a permit should be issued to the GCDC for the proposed 85 MGD withdrawal from Lake Huron. Part 327 specifically requires the DEQ to issue a permit if on the basis of the submitted material the proposed water withdrawal meets the decision making criteria. The DEQ is specifically precluded from using part 327 to "…diminish or create any existing authority of municipalities to require persons to connect to municipal water supply systems as authorized by law" (MCL 324.32726).

Any addition or loss of a major customer of a regional public water system has the likelihood of affecting water rates – clearly a major addition or loss affects both the revenues and costs of operation. Water rates and the basis for establishing water rates are not an issue under Part 327. It is appropriately an issue for water service contract negotiations between the regional water system and its customers. To do otherwise invites unwanted intervention of the state into local decision making. There is nothing in Part 327 or any provisions of the Agreement and Compact that would either mandate connection to a regional water system or bind a customer permanently to a regional water system.

Applicability of Law and Regulations

Comments criticized the GCDC's application under Part 327. As a community public water supply the commenter believes the application would have been more appropriately made under the Michigan Safe Drinking Water Act, Act 399, as amended and rules. A submittal of plans and specifications under Act 399 would have provided greater clarity as to the reasonableness of the water use and the applicant's intent relative to applicable Conservation Measures.

Other comments cited the application of requirements in the Compact and expressed the opinion that the GCDC proposal did not meet the applicable standards. Most frequently referenced were the standards identified in *Section 4.11, Decision Making Standard* and *Section 4.12, Applicability* of the Compact. Relative to the former, comments suggested the proposed use is not reasonable based on efficient use of existing water supplies, balance between economic and social development, environmental protection, use of same source by multiple users, and the probable degree of adverse impacts. Relative to the latter requirements, it was implied that the Compact provides the Originating Party (i.e. Michigan) with the power to apply a much more stringent standard.

Response to Comments: Part 327 and the companion amendments to Act 399 do not provide any restrictions as to who may apply for a permit to make a large quantity water withdrawal nor specify how one must go about obtaining a permit. GCDC stated that they submitted their request for approval through Part 327 in large part to obtain the appropriate authorization of the withdrawal before investing a significant amount of money in developing plans and specification for the water works systems. Conformity with the Decision Making Standard of the Compact is, in part, the basis for the DEQ's decision on the permit application.

New Withdrawal and Consumptive Use

A number of comments focused on the fact that approval of the GCDC proposal would not result in a decrease in Detroit's ability to pump water and solicit new customers to maintain their current rate of use. As a result commenters concluded that the GCDC proposal should be treated as a new withdrawal. A corollary to this criticism was the observation that the total water withdrawal from the Great Lakes Basin would increase and that approval of the proposal would encourage other users to pursue similar use of Great Lakes waters. Some comments questioned the water use projections by the GCDC for the years 2014 to 2039. GCDC projected water use to increase by 42 percent. There was also concern that projected demand was 78.7 MGD, yet the request is for 85 MGD. There were requests that the proposed new withdrawal should be considered unacceptable unless the Detroit withdrawal was reduced by a corresponding amount.

Concern was also expressed over an increase in consumptive use. The fact that there would be an increase in use would result in additional consumptive use loss from the Great Lakes Basin. Numerous comments, particularly from other states questioned the use of 10 percent as the consumptive use coefficient indicating it should be higher. USGS publications cite consumptive use on public water supply systems in the range of 10 to 15 percent.

Response to Comments: Comments on the increased use must be addressed within the context of public water supply system operation, in particular when the increase in use is based upon population projections over a period of years. GCDC conducted a study to obtain the projected use of 78.7 MGD by 2039 based upon population and water use trends for the area currently served by the GCDC system. The GCDC explains that the request for 85 MGD provides a slight buffer over that which would be needed to account for water use in KWA member water treatment plants for such things as filter backwash. Additional buffer is provided to account for system losses. The GCDC as previously noted has set a goal of 5 percent for system losses. The DEQ determined the 85 MGD request is appropriate relative to the projected use, system operation and system water losses.

The DEQ has projected an increase in consumptive use of 8.5 MGD because the GCDC proposal is a new withdrawal. The GCDC proposed withdrawal does not affect the baseline capacity of the DWSD system or DWSD's future use of their existing baseline capacity. In the short term, the combined use of water for both the DWSD and GCDC systems will not significantly increase, because GCDC presently receives their water from DWSD. The proposed withdrawal was evaluated by the DEQ on the basis of DWSD maintaining their existing baseline capacity and evaluating the impact of a new 85 MGD withdrawal by GCDC from Lake Huron.

The consumptive use coefficient of 10 percent was obtained from *Table 3-2. Total water use by category for the Great Lakes Basin, by year, from the Great Lakes Commission annual reports, 1998-2002* in the USGS publication Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas, Scientific Investigations Report 2007-5197. Consumptive use coefficients for public supply over the years cited (1998-2002) were 10 and 11 percent, with 10 percent cited as the consumptive use over the entire period in question. The DEQ deemed this reference to be the most reasonable estimate of consumptive use.

Conservation Measures

There were multiple criticisms of the GCDC's commitment to water conservation. Specifically, that the GCDC identified no measures aimed at water use reduction noting that water conservation on new systems should be aggressive. Comments cited the published water conservation measures applicable to the public water supply sector noting that the GCDC has not made a commitment to each and every conservation measure. Specifically, their description of conservation measures did not include measures that promote water use conservation and the reduction of system leaks. Lastly, none of GCDC proposed wholesale or municipal customers provided information on compliance with Conservation Measures.

Commenters also expressed concern that the conservation measures identified by the GCDC were not consistent with the requirements of the Agreement and/or Compact. Plans for water use reduction or conservation were characterized as inadequate as nothing was mentioned relative to targeting system leaks and the promotion of efficient water use, in particular those leaks mentioned for the Detroit system. It was expressed that no new withdrawals should be approved until Detroit's leak problems are addressed. Some indicate there should be no approval of the withdrawal without a "water master plan" including impacts of current conservation and efficient use measures that have reduced total use and consumption. Commenters questioned whether there would be a continuation of conservation efforts made to date or whether there efforts would be improved upon. It was noted that a projected increase in population does not necessarily correspond to a projected increase in use, if one assumes more efficient use and conservation. Some commented that additional documentation is needed on water conservation measures including clear goals, targets and means of assessment.

Response to Comments: After January 1, 2009 permit applicant's are required to "self-certify" that they are in compliance with conservation measures developed by the applicable water

user's sector or developed for the water use associated with that specific withdrawal. The GCDC certified to the promotion of educational programs related to lawn sprinkling and other outside water uses, implementation of programs to promote water re-use and promotion of other water conservation measures by commercial and industrial facilities, and has set a goal of a less than 5 percent for system wide water losses. The GCDC practices "flat rate water billing," meters all water uses and bills commensurate with the metered water usage. The GCDC employs a local ordinance restriction on outdoor water use during periods of peak use.

The DEQ acknowledges the GCDC has not certified as to employing each and every water conservation measure identified for the public water supply sector, and notes there is not a requirement in Part 327 that they do so. The DEQ does commit to working with public water supplies to further water conservation efforts and will do so with the GCDC. Relative to the GCDC customers, the GCDC is making application on behalf of member communities of the KWA. All KWA members would participate in the implementation of the identified conservation measures. References to fixing deficiencies in the DWSD system are not germane to the GCDC permit application.

Reasonableness of Proposed Withdrawal

A number of comments were received relative to the reasonableness of the proposed withdrawal noting that any proposal must be considered on the basis of its purpose, suitability of use to location, the extent and amount of harm, benefits, necessity and manner of use, and other factors. The Agreement and Compact also require consideration of the economic and social value relative to potential environmental impacts and other factors. Generally, comments on the reasonableness of the proposed withdrawal focused on:

- The environmental harm that might be caused by the return of treated wastewater, and
- The necessity and amount of the withdrawal given the availability of Detroit system.

Specifically, on the issue of return flow there is a concern that points of discharge and downstream segments would be incapable of absorbing the projected 42 percent increase in discharge (based on future growth projection) without adverse impact. Commenter's claim numerous combined sewer overflows have occurred and requested verification that discharges are operating in compliance with existing laws.

Regarding the availability of the Detroit system, many comments made reference to the fact that the efficient use of existing systems is a required demonstration of reasonableness. There were claims the GCDC application should be rejected since the GCDC failed to rule out the option of using the existing DWSD system. Comments indicated that DWSW currently has the capacity to meet the needs of the GCDC and its customer municipalities, is already providing service to the proposed service area, and alleges to having made a commitment to providing reliability.

A few comments related to the economic and social value criteria of the Agreement and Compact, which requires consideration of the balance between economic development and social development and environmental protection on planned withdrawals from the same source

Response to Comments: There are four wastewater discharges by the City of Flushing, City of Flint, Genesee County's "Ragnone Plant" and the City of Lapeer. The four wastewater treatment plants are in the process of reducing infiltration and inflow from their collection systems. The National Pollutant Discharge Elimination System (NPDES) permits for the Flint and Genesee Ragnone plants discharges require treatment facility and collection system capacity analyses. The City of Lapeer proposes to rehabilitate their plant to increase the treatment capacity and accommodate an increase in population and service area. All are operating and are in compliance with the parameters stipulated by their respective NPDES permits. If the GCDC service area demands increase in the future, or if the service area expands, the DEQ will use the standard NPDES permit review/reissuance cycle (5-years) to

evaluate any impacts from increases in wastewater flow. That process will include public participation.

The efficient use of existing systems is an applicable consideration when a proposal for an increased withdrawal and consumptive use is before the DEQ for approval. That is to say, an existing system must demonstrate that it is not wasteful of its water before is request for an increase in use can be approved. Because this is a new withdrawal the requirement for efficient use of existing systems, specifically the efficient use of a system owned and operated by another party (DWSD), is not germane to the permit decision.

As a consideration on the reasonableness of a water use, social and economic development considerations must be balanced against environmental impact of the proposed withdrawal. The GCDC outlined the potential benefits including enhanced public safety, security and health that would be provided to area communities served by the proposed withdrawal. Many of the social benefits would arise as a direct outcome of the new intake, pipeline, shore well and treatment facilities correcting existing system deficiencies identified by the DEQ. The GCDC projects the proposed construction of facilities would provide a direct infusion of money, jobs and manufacturing opportunities to the area. The DEQ determined there would likely be no ARI to the commonly shared water source as the withdrawal is not of sufficient magnitude to perceptibly lower the levels of Lake Michigan and Lake Huron. Accordingly, the DEQ concludes the GCDC proposal meets the reasonableness criteria relative to social development, economic development, and environmental impact.

Adverse Impact and Requirements for Ecological Improvement

Comments pointed out that the Great Lakes states and provinces have agreed to protect, conserve, restore and improve the Great Lakes resources. Some additional analysis recommended that the DEQ ascertain if there might be a cumulative ARI and questioned why the DEQ has not required the submittal of proposed restorative measures as part of the application packet. Comment pointed out that the application packet included no information as to whether Detroit will reduce its water use, whether GCDC will remain a DWSD customer for backup, and whether DWSD will seek additional customers. Commenters indicated that if there is no net reduction in use cumulative impacts need to be addressed. Some believe what was referred to as a diversion could have a significant impact on the levels of the Great Lakes and set precedent for other large scale diversions. Eleven comments focused solely on the impact the withdrawal would have on lake levels.

Response to Comments: The DEQ has determined there would be no ARI caused by the impact of the proposed withdrawal, and no perceptible impact on the levels of the Great Lakes or connecting channels. Given the likely near term affect of the proposed withdrawal on the volume of the DWSD withdrawal, there is no identifiable issue of cumulative impacts. Part 327, ~~which is~~ the guiding legislation in the issuance of the permit, requires "preventative measures" be submitted as part of a permit application only when necessary to preclude an otherwise prohibited environmental impact. As a proposed new withdrawal, the DEQ evaluated the GCDC withdrawal without assuming there would necessarily be any change to DWSD capacity to withdraw~~al~~ water from the Great Lakes.

Diversion or Intra-Basin Transfer

A number of comments assumed that the proposed withdrawal constitutes a diversion, or intra-basin transfer, precluding DEQ approval under Part 327, the Agreement and Compact. Comments indicated the need for the GCDC to better identify the current and proposed service area. This was especially true in dealing with service to Shiawassee County as portions of the county are in both the Lake Michigan and Lake Huron watersheds. There was also concern that some of the service area and return flow might be to the St. Clair/Detroit River watershed, or discharged to the Lake Erie watershed resulting in an intra-basin transfer. There was concern

that approval of the withdrawal would set a dangerous precedent for the review of diversion and intra-basin transfers in the future.

Response to Comments: In accordance with Part 327, the Agreement and Compact, the DEQ has determined the proposed withdrawal would not constitute a diversion or intra-basin transfer. Portions of Shiawassee County lie in both the Lake Michigan and Lake Huron watersheds. However, Section 4.12.9 of the Compact states that Lake Michigan and Lake Huron are to be considered a single hydrologic unit and watershed. And therefore the transfer of water between Lake Michigan and Lake Huron watersheds is not considered a diversion under the Compact. None of the proposed service area lies within the watershed of the connecting channel or Lake Erie. Connecting channels are those waters and associated watershed that lie between any two of the Great Lakes. Section 4.12.7 of the Compact treats connecting channels as though they are part of both the Great Lake watersheds above and below the connecting channel.

In summary, within the applicable definitions of Part 327, the Agreement, and Compact the proposed withdrawal would not constitute a diversion or intra-basin transfer. It is a proposal potentially subject to Prior Notice and Consultation under the Charter because it is proposed as an in basin use with the only loss of Great Lakes waters due to the associated consumptive use.

Inadequate Information

A number of comments criticized the adequacy of the submitted information. Some suggested more information was needed on the movement of ground water and surface water to determine if the proposal will result in an intra-basin transfer or cause an adverse impact to the quantity and quality of Great Lakes basin waters. There were claims the proposal did not meet the requirements, spirit or intent of Agreement or Compact. The presumed inadequacy of information led to concern over consumptive use, service area information and water loss. There was also concern over inconsistencies in the information such as references to the new capacity of 85 MGD, a maximum capacity of 110 MGD and a firm capacity of 88 MGD. There were questions as to the relationship between the various cited capacities.

Others acknowledged the effort made to demonstrate consistency with the Agreement and/or Compact while noting information deficiencies. In a few instances commenter's requested information concurrent with a request for extension of the public comment period.

Response to Comments: A permit applicant under Part 327 is required to submit information including pumping capacity; location of withdrawal; withdrawal source; amount and rate of withdrawal; the maximum monthly and annual volumes and rates; relevant information related to seasonal use; a description of how the water will be used; the location, amount and rate of return flow; and an evaluation of existing hydrological and hydrogeological conditions. Other information may be provided at the discretion of the applicant with a description of preventative measures required where relevant.

Due to the magnitude of the withdrawal and its qualifying as a proposal potentially subject to Prior Notice and Consultation under the Charter, the DEQ requested the submittal of additional information. Extensive information was provided to meet information requirements in accordance with the Charter, the Agreement and Compact. The DEQ deemed the information sufficient and notified the GCDC of such on April 24, 2009.

Regarding the request for an extension of the public comment period, Part 327 contains a statutory limit on the time the DEQ may give to the consideration of a permit application. Once the applicant is notified of the completeness of application the DEQ has 120 days in which to render a decision. Given the time constraints and the adequacy of the application packet, the DEQ denied requests to grant an extension to the public comment period.

V. Summary of DEQ Position

The DEQ has determined the application for the GCDC proposed withdrawal of water from Lake Huron was submitted in accordance with the permit requirements of Part 327. Further, the proposed withdrawal is deemed not likely to cause an ARI and, as proposed, meets the intent of the Great Lakes Charter and the decision making standards of the Agreement and Compact. The DEQ based this determination on a review of the information and data pertinent to the factors used in making a decision on a permit application which included a thoughtful consideration of the comments received from the public, the other Great Lakes states, the Canadian provinces of Ontario and Quebec, and federally recognized tribes and first nations on the permit application, as made available for public review.

The authorized withdrawal capacity is 85 million gallons per day (maximum withdrawal in any single day). The DEQ will assure that capacity is not exceeded in the issuance of the required Michigan Safe Drinking Water Act construction permits (1976 P.A. 399, as amended). In addition, the DEQ will require as a condition of this Part 327 authorization that the participating members of the Karegnondi Water Authority be committed to a water conservation/water use efficiency program consistent with the water sector guidelines accepted by the state under Part 327, and posted on the DEQ website.

ROWE PROFESSIONAL SERVICES COMPANY

Large Firm Resources. Personal Attention.

January 7, 2013

Mr. Edward Kurtz, Emergency Financial Manager
City of Flint
1101 S. Saginaw Street
Flint, MI 48502

Subject: Review of December 21, 2012 Presentation – City of Flint Water Supply Assessment

Dear Mr. Kurtz:

As requested, we have reviewed the analysis of water supply alternatives for the City of Flint which was presented to the State Department of Treasury by Tucker, Young, Jackson, and Tull, Inc. (TYJT) on December 21, 2012. Our review is attached and summarizes the primary differences between the TYJT assessment and our previous studies and provides explanations of why we believe there are differences.

We have also reviewed the options for continued DWSD supply included in the TYJT presentation. It is not clear whether these are presented as specific offers on behalf of DWSD or included as examples for analysis, but we have noted some items which we believe should be addressed and considered as these options are compared.

If there are questions, please contact me.

Sincerely,
ROWE Professional Services Company

James E. Redding, P.E.
Vice President / Director of Engineering

Attachment

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Review of TYJT December 21, 2012 Presentation
City of Flint Water Supply Assessment
Prepared by Rowe Professional Services Company

DWSD Supply (Slides 7 through 9)

1. The 8 mgd maximum day supply by DWSD options can result in periods during the summer when most of the water to meet demands will be supplied by the City from the river. To aid in maintaining a consistent water quality, softening of the water from the river should be provided with this option, greatly increasing the City's costs.

2. Upgrades to Flint's WTP and dams will be needed for options requiring blending, since the WTP will be required to provide continuous, reliable service and compliance with recent surface water treatment regulations.

3. The rates for the options analyzed are shown on Slide 9 as "TYJT Estimates". Options and rates shown are different than presented by DWSD previously.

	DWSD 11/29/2012	TYJT Estimates
18 mgd Maximum Day - P&B	$16.24	$16.37
12 mgd Maximum Day - P&B	$16.30	$16.31
8 mgd Maximum Day -P&B		$12.68
12 mgd Maximum Day - Imlay	$14.38	$14.38
8 mgd Maximum Day - Imlay		$11.11

4. Since the rates used in the analyses are shown as estimates, are they actual offers or just presented as "what if" scenarios?

5. We assume that the Imlay options are based on transfer of the 72" main through Lapeer County to Flint. The analyses show a capital cost of $4.7 million; we assume that this is the proposed purchase / lease cost to Flint. This should be clarified along with pertinent details.

6. If the transmission main is transferred to Flint, what are Flint's responsibilities regarding service to the Lapeer County customers? If they remain DWSD customers, then Flint should receive some revenue for the use the main. It does not appear this is included in the TYJT analyses.

7. If the transmission main is transferred to Flint, we assume that the city will be responsible for the maintenance of the 50 year old main. The TYJT analysis did not include this.

8. Do the rates shown include the credit for "reliability" which had been discussed with DWSD?

9. If the point of commerce is changed from Baxter and Potter to Imlay, a new meter pit will be required. The cost of this does not appear to be included in the TYJT cost analyses.

Flint River Supply (Slide 10)

1. If any of the "blending" options are chosen, it will be necessary to upgrade the Flint WTP and dams to provide reliable, continuous service and compliance with recent surface water treatment regulations.

Data Collected (Slide 14)

1. The slide notes that Flint blending is based on DWSD supplying 2/3 and Flint supplying 1/3 of 12 MGD ADD. For the maximum day demand (18 mgd), if DWSD supplies a maximum of 8 mgd, Flint will supply 10 mgd or 56% of the total. However, such a large portion will make it more difficult to blend and achieve consistent water quality. Flint will need to soften water for these options.

Benchmarking Comparisons (Slide 16)

1. The slide subtitles are "KWA O&M Inflation Factor" and "DWSD and Flint Rate Inflation Factor". It seems appropriate to benchmark O&M costs for the KWA, because future costs of service will be dependent on how operating costs are impacted by inflation. For Flint, it does not seem appropriate that "rate inflation" from other utilities be used to determine the impact of inflation on future cost of service. Rates are impacted by inflation, but also by other factors such as debt and customer base. O&M expenses and rates are different and care should be exercised not to mix the two during analyses. The TYJT analyses apply an inflation factor (based on rates from other utilities) to the Flint WTP operating expenses, which does not seem to be consistent.

2. The KWA will supply raw water; SOCWA and YUCA both supply finished water. Regulations impact the O&M for finished water suppliers but should not impact the KWA O&M. The use of data from SOCWA and YUCA does not seem like a comparable comparison with the KWA. Finished water suppliers will have increased costs due to regulatory compliance, which really are not due to "inflation" of the costs of wages, power, chemicals, etc.

3. DWSD has a history of rates to Flint and other suburban wholesale customers. Rates tend to be quite specific to each utility, based on much more than just the costs of operating and maintenance. It appears that DWSD historical rates have not been considered in projecting future DWSD rate increases.

Capital Financing (Slide 17)

1. KWA bonds are planned to be general obligation bonds, backed by member counties.

O&M Inflation Factor (Slide 20)

1. SOCWA and YUCA are finished water suppliers; ever-changing regulatory requirements will impact their operating costs more than a raw water supplier, such as KWA.
2. KWA will be a supplier of raw water. O&M costs should primarily be limited to power and labor, with a little chemical use for zebra mussel control. KWA will not provide treatment of the water.

3. The KWA study assumed power, labor, and chemical costs increase at an annual average of 3%. TYJT indicated this is too low and suggested 5%.

4. Following are examples of historical inflation, which support the 3% as a reasonable assumption for O&M expenses (not rates)
    a. Labor- GCDC-WWS labor costs have increased at an annual average rate of 2.5% since 2003
    b. Electricity Rates in Michigan (per U.S. Energy Information Administration) have increased an average of 3.2% since 1999.
    c. The U.S. Bureau of Labor Statistics indicates that the inflation rate over the last 30 years has been an average of 2.8%.

Finished Water Rate Inflation (Slide 21)

1. TYJT bases their assumptions for rate inflation on a survey of rates from three other water suppliers, but ignored the actual rate history of DWSD. TYJT assumed DWSD rate increases of 4.4% annually (if water is purchased from P&B) and 2.9% annually (if water is purchased from Imlay). Based on the actual charges by DWSD to Flint, DWSD historical rates are as follows:
    a. 10 year increase in DWSD rates to Flint:: 10.5% annually
    b. Average annual increase through 45 year history: 6.7%

2. Note that for the KWA analyses, an inflation factor has just been applied to power, labor, and chemicals. Although higher prices for labor, power, and chemicals impacts utility rates; rates are impacted by many other factors, many of which are not related to inflation. Rate inflation will likely be different than O&M inflation. Other factors impacting rates:
    a. Debt – the amount of debt varies widely between utilities
    b. Number of customers / quantity of water sold – there are many fixed expenses with a utility, that if are distributed amongst more users/more gallons sold will result in lower rates. Conversely, if there are fewer users or less water sold, the rates are higher. Assumptions regarding future water consumption will have a great impact on "rate inflation".

3. Unlike KWA and Flint operating expenses which will increase over time based on inflation, the cost of continued DWSD service should be based on the inflation of DWSD rates, to include the increasing cost of other DWSD expenses such as debt and the impact of reduced customers / demands in addition to increasing O&M expenses.

4. Even though there could be a one-time reduction in DWSD rates through adopting the model contract, limiting peak demands, and or changing the point of commerce; it doesn't seem reasonable to assume that subsequent annual increases will only average 4.4% through the 30 year period of analysis. This is significantly less than historical performance (yet TYJT suggests that inflation for KWA O&M expenses will increase at almost double the rate of historical indicators).

Capital Financing with Revenue Bonds (Slide 24)

1. Note that the KWA bonds will be general obligation bonds backed by the member counties.

2. The 2009 KWA Study assumed 6%, 25 year financing. The interest rate for planning was reduced in the 2012 Study update to 5%, which is still higher than if bonds were sold today.

3. Financial consultants determined the charges for purchasing capacity in the KWA supply based on the estimated project cost plus appropriate financing costs. Based on 60 units of capacity, $538,764,000 will be generated for repayment of debt and project costs using the capacity charges in the KWA capacity agreement.

25 years * 60 units * $355,300 / unit =	$532,950,000
3 years * 60 units * $32,300 / unit =	$ 5,814,000
	$538,764,000

4. For a KWA project cost of $272,421,558, total P&I is $483 million. The difference of $55,500,000 is available for financing expenses (capitalized interest, bond issuance costs, etc.) and additional contingencies.

5. Bond holder reserve is not a requirement for general obligation bonds.

6. TYJT assumed that 3% interest would be earned on the bond holder reserve during the 25 year bond period. Current interest rates are less than 1% and it seems inappropriate to assume such a high rate will be earned on retained funds.

7. Bondholder reserve, if provided, should be applied against the last couple of P&I payments. The TYJT did not apply it. This will reduce their project costs.

KWA Construction (Slides 26 through 29)

TYJT has indicated that the KWA construction cost estimate is too low. The primary differences in cost estimates for the project appear to be the following components:

1. Pump Stations (Slide 27) – The TYJT estimate for the pump stations is more than double that used by the KWA ($54,573,314 vs. $24,618,080). KWA estimates were based on actual construction costs from recent projectd completed by Genesee County within the last eight years.
   a. 32mgd water pump station including two-10 MG ground storage tanks - $13.4 million
   b. 80 mgd wastewater pump station, 50 feet deep wetwell – $8.3 million
   c. 30 mgd wastewater pump station, 50 feet deep wetwell – $9.4 million

   The KWA budgeted amount seems reasonable for two pumping stations as currently planned and to be constructed in rural areas (not southeast Michigan).

2. Redundant Power – There is no need for redundant power; other provisions will provide reliability of supply.

3. Land – Preliminary engineering has continued so earlier budgets established for planning for land acquisition can be greatly reduced. Options have been obtained on all properties which must be

purchased, so purchase prices are known. It will be necessary to obtain easements for only two miles of pipeline construction. All land costs are now estimated at $1.25 million.

4. Engineering, Legal, Administration & Contingencies
   a. The October 2012 KWA estimate provided an allowance of 25% of construction cost to cover engineering, legal, administration, and contingencies (ELAC). This was reduced from the 38% allowance used in the 2009 Study because ongoing planning and design have firmed up many of the details of the project, including:
      i. The intake design has been completed and all regulatory permits obtained.
      ii. The transmission main route has been determined. Meetings with road agencies have firmed up the requirements for construction and restoration within rights-of-way. Environmental review and permitting are in process.

   b. TYJT costs for Intake Crib, Pump Stations, and Transmission Mains (Slide 30) include a 30% allowance for ELAC. These allowances (from Slides 26 through 28) total $72,139,566. In addition, Slide 30 provides the following additional ELAC costs in the project total:

Design Engineering / Pump Stations	$16,939,581
Construction Management	$14,434,410
Administration	$ 349,440
Legal	$ 831,000
Total	$32,554,431

   c. Combining this with the $72,139,566 totals $104,693,997 or 43% of the estimated construction cost. We believe that such a high allowance for ELAC is not appropriate for a project of this magnitude where preliminary engineering and some design have already been completed.

Cost Comparison (Slide 30)

1. The TYJT pump station price is too high based on costs of similar projects; costs used by KWA are based on costs of recent local projects. The KWA estimate is believed to be sufficient for the proposed pumping stations.

2. Redundant power is not required; this does not need to be included in the TYJT estimate.

3. Land for LHPS – actual price is $360,000

4. Design Engineering / PS and Transmission – KWA included engineering in the 25% ELAC allowance included in the $207,752,895 estimated cost of transmission mains; TYJT included engineering in their 30% ELAC allowance included in the $218,811,559 estimated cost. By adding $16,939,581 for design engineering, $14,434,609 for construction administration, $349,440 for administration, and $831,000; it seems that ELAC is being "double-counted". The TYJT 43% allowance for ELAC seems unwarranted for a project with a great deal of preliminary and design engineering completed. The 25% KWA allowance is believed to be sufficient.

5. Easements and land (other than LHPS) should total $1,140,000, based on current options and specific needs for easements.

Other Considerations – Redundancy / Reliability (Slide 33)

1. Unfunded Mandates/ Future Regulations
    a. The proposed KWA supply will deliver raw water; it is not anticipated to be affected by future changes to regulations. Regulations will impact the City of Flint with respect to treatment and/or distribution of finished water. The City will be subject to these requirements with any of the DWSD blending options, just as they will be responsible for them if supplied by KWA. Some compliance costs may actually be less with the higher quality Lake Huron water rather than Flint River water as the source.

2. State Goals
    a. The TYJT presentation indicates that creation of a new raw water supply is contrary to the governor's goals as suggested. However, the development of a new raw water supply provides new opportunities. Communities in Sanilac, St. Clair, and Lapeer counties will have the option to join a regional water supply and replace their small local supplies where limited supplies and high concentrations of arsenic have been a concern. The new water supply also provides great economic development opportunities. The raw water supplied by KWA will make a new commodity, raw water, available to the region. A large, low-cost supply of raw water can be a valuable resource for industries and agri-businesses. The development of a new water supply will also create construction jobs through the short term period of building the new water supply and subsequently over a longer period as new businesses and industries are developed in the area.
    b. The City of Flint and area communities will benefit as permanent jobs are created for operating and maintaining the local treatment facilities.

3. Redundancy
    a. We agree that the KWA and DWSD options are similar with respect to redundancy. Both provide the primary water supply; customers are responsible for their backup supply.

Other Considerations – Cost Slide 34

1. TYJT indicates that the DWSD 8 mgd supply option is the least cost alternative.
    a. The TYJT analysis does not include the cost of needed upgrades to the City's WTP or increased operating costs in their analysis. During summer months, water from the river will need to be softened before blending. More than half of the water supplied will be provided from the river. When the cost of upgrades to the WTP and the increased operating costs (for softening) are added to the TYJT analysis, the KWA option is less than the DWSD 8 mgd option.

2. For any of the DWSD "blending" options, upgrades will need to be made at the WTP to provide for continuous, reliable operation and compliance with new surface water treatment rules. Increased capital and operating costs for treating water from the river should be added to the TYJT costs for comparison with the other options.

3. Water from the river will require greater effort to treat than water from Lake Huron (more chemicals, power, and residuals). The TYJT analysis shows about the same O&M costs for the Flint WTP, regardless of water source. It seems that the WTP O&M costs for the KWA options should be reduced to reflect the savings from treating Lake Huron water.

4. The TYJT presentation noted that the KWA analysis did not include allowances for mechanical and process improvements within the planning period. The KWA will supply raw water. The facilities consist of pipe, pumps, and a tank. There are no treatment facilities which would be susceptible to future regulatory changes. The only improvements that seem likely would be the need to provide additional capacity. Capacity expansion is planned to be financed through capacity charges to new users.

5. The provision for redundant connections between the City's water system and the GCDC system was included in the most recent water supply agreement between the two, in 2011. Although not a KWA cost, the cost of the redundant connections should be considered with all options.

6. The $2.3 million budgeted for land by KWA was intended to cover all land requirements. Since the October update, options have been obtained on all land to be purchased and the locations of easements needed has been finalized. Total land costs are now estimated to be about $1.5 million.

7. The 2004 study included a 47% allowance for engineering, legal, administration, and contingencies (ELAC). The 2009 study reduced the allowance for ELAC to 37% because many of the details since the 2004 conceptual study had been better defined. For the October 2012 update, the allowance for ELAC was reduced to 25% because continued planning and preliminary engineering further addressed details from the earlier concepts.
    a. The detailed design (plans and specifications) and permitting have been completed.
    b. The transmission main route has been finalized. Meetings with road agencies have established requirements for construction and restoration within road rights-of-way. Environmental permitting is in process. The primary remaining unknown is pipe sizing, which is largely dependent on Flint's participation.

    It is our experience that the 25% ELAC allowance is appropriate for a project of this magnitude at this stage in the planning / design stage. The 43% ELAC allowance recommended by TYJT is excessive for a project in the design phase.

8. Flint's WTP as a backup to the KWA will be less difficult to provide for than the current arrangement as a backup to DWSD. We believe there is potential for challenges with chemistry and treatment for the proposed DWSD blending options, too.

9. It doesn't seem that oversizing the KWA capacity is a good solution for the city's water loss problems, if that is what is being suggested.

10. Yes, it would be nice if the KWA system could be constructed to firmly determine its cost and time to complete before making a decision about water supply alternatives. However, a decision is needed regarding Flint's participation so that the sizing and design can be completed, before it can be built.

Project Costs - TYJT Slides 26 through 30

	KWA	TYJT
Intake and Crib		
Construction	$22,076,850	$22,076,850
ELAC	$5,519,213	$5,519,213
Property	$2,300,000	$2,300,000
Pumping Stations		
Construction	$24,618,080	$54,573,314
Land		$75,000
ELAC	$6,154,520	$16,394,494
Transmission Mains		
Construction	$166,202,316	$167,419,530
ELAC	$41,550,579	$50,225,859
Easements		$1,166,170
Engineering		
Design Engineering		$16,939,581
Construction Management		$14,434,609
Administration		$349,440
Legal / Easements / Contracts		$831,000
Power	$4,000,000	$4,000,000
Redundant Power		$1,273,200
Total Construction	$212,897,246	$244,069,694
Total ELAC	$53,224,312	$104,694,196
Total Land / Property / Easements	$2,300,000	$3,541,170
Total Power	$4,000,000	$4,000,000
Total Redundant Power	$0	$1,273,200
Total	$272,421,558	$357,578,260
ELAC as % of Construction	25.0%	42.9%

	Option	TYJT Total Cost	TYJT minus additional costs of river treatment	TYJT minus additional costs of river treatment plus redundant Flint-GCDC connections	TYJT minus additional costs of river treatment plus redundant connections less KWA reserve	TYJT minus additional costs of river treatment plus redundant connections less TYJT financing	TYJT plus Flint WTP		Adjusted Total Cost	Ranking
1	Flint WTP Only	$590,441,893							$590,441,893	3
2	DWSD 8 MGD Max Day at Imlay	$621,211,298					$771,289,948		$771,289,948	5
3	KWA 10/31/12 Update	$649,775,166	$534,615,996	$554,555,960					$554,555,960	1
4	DWSD 8 MGD Max Day at P&B	$657,167,877					$807,246,527		$807,246,527	6
5	KWA-1	$707,279,715	$592,120,545	$612,060,509		$572,731,459			$572,731,459	2
6	DWSD 12 MGD Max Day at Imlay	$707,994,386					$858,073,036		$858,073,036	8
7	DWSD 12 MGD Max Day at P&B	$742,168,081					$892,246,731		$892,246,731	9
8	KWA - 2	$766,784,313	$651,625,143	$671,565,107	$654,706,341				$654,706,341	4
9	DWSD 18 MGD Max Day at P&B	$791,202,885						$812,337,848	$812,337,848	7

	Option for Water Supply	TYJT Projected 30 Year Total Cost	30 Year O&M Reduction for Treating Lake Huron Water	25 Year Bond Cost for Redundant Connections	Eliminate KWA Reserve	Use KWA 25 Year Capital Charge $58,200/MGD	25 Year Bond Cost for Flint WTP Upgrades	Adjusted 30 Year Total Cost	Rank (Least to Highest Cost)
1	Flint WTP Only	$590,441,893		Included				$590,441,893	3
2	DWSD 8 MGD Max Day at Imlay	$621,211,298		Note 1			$150,078,650	$771,289,948	5
3	KWA 10/31/12 Update	$649,775,166	-$115,159,170	$21,134,963				$555,750,960	1
4	DWSD 8 MGD Max Day at P&B	$657,167,877		Note 1			$150,078,650	$807,246,527	6
5	KWA-1	$707,279,715	-$115,159,170	$21,134,963		-$39,329,050		$573,926,459	2
6	DWSD 12 MGD Max Day at Imlay	$707,994,386		Note 1			$150,078,650	$858,073,036	8
7	DWSD 12 MGD Max Day at P&B	$742,168,081		Note 1			$150,078,650	$892,246,731	9
8	KWA - 2	$766,784,313	-$115,159,170	$21,134,963	-$16,858,766			$655,901,341	4
9	DWSD 18 MGD Max Day at P&B	$791,202,885		$21,134,963				$812,337,848	7

Representative Genesee County Water and Wastewater Projects

Project	Description	All Engineering Fees	Engineer's Estimate	Bid Price	Final Construction Cost	Engineering & Contingency %
Fox Pump Station	30 mgd wastewater pump station & forcemain	$1,829,259		$12,394,273	$12,074,223	
		15.2%				
NEES Project	60" Relief Sewer - included tunneled sections		$54,707,212	$55,985,672	$69,999,429	
					28.0%	
North Water Loop	23 miles 36" and 48" transmission main, pump station, & 20 MG Reservoir	$4,102,610	$29,200,000	$23,570,110	$25,798,529	2.4%
		15.9%			-11.6%	
Henderson Road PS	32 MGD Water Pump Station & Two-10 MG Tanks		$12,046,368	$12,846,077	$13,517,582	
					12.2%	
Pump Station #1	80 MGD wastewater pump station	$1,735,063	$10,269,000	$8,225,400	$8,292,277	-2.4%
		20.9%			-19.2%	

Notes:

Engineering Fees include all planning, soils investigation, design, construction inspection & testing, and construction management costs

Engineering Fees % is based on final construction cost

Engineering and Contengency % is based on engineering fees + amount final construction cost exceeds estimate

Final Construction Cost % is based on difference between final construction cost and engineer's estimate

NEES Project Contractor went out of business during project - increasing cost to finish project

Projects constructed within last ten years

From: Busch, Stephen (DEQ)
Sent: Wednesday, March 27, 2013 4:44 PM
To: prysbym@michigan.gov
Subject: FW: ODWMA Response - Flint KWA-DWSD Report
Attachments: KWA - DWSD for WRD.DOCX

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Sygo, Jim (DEQ)
Sent: Wednesday, March 27, 2013 2:53 PM
To: Busch, Stephen (DEQ)
Subject: RE: ODWMA Response - Flint KWA-DWSD Report

Thought I would share with you some items that WRD came up with as well. AS you might guess we are in a situations with Emergency Financial Managers so it's entirely possible that they will be making decisions relative to cost. The concern in either situation is that a compliant supply of source water and drinking water can be supplied.

From: Busch, Stephen (DEQ)
Sent: Wednesday, March 27, 2013 1:39 PM
To: Thelen, Mary Beth (DEQ); Wyant, Dan (DEQ); Sygo, Jim (DEQ); Shekter Smith, Liane (DEQ)
Cc: Willard, Veronica (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Bloemker, Jon (DEQ); Donaldson, Kristina (DEQ); Creal, William (DEQ)
Subject: ODWMA Response - Flint KWA-DWSD Report
Importance: High

Director Wyant, and Deputy Director Sygo,

Addendums to ODWMA comments provided yesterday regarding the City of Flint water system and comments on the reports from Tucker, Young, Jackson, Tull, Inc. (TYJT) can be found below in red. Additional comments are as follows:

With regards to regulatory authority for DEQ to allow or prevent the breakup of water utilities, and State vs. local decisions about cost effectiveness, it is important to note that when the DEQ permitted the water withdrawal for KWA (permit 2009-001) part of the decision making process (copy attached) included reasonable use and the balance of Economic Development, Social Development, and Environmental Protection. As part of the public participation process general comments were received (pages 6 & 7) regarding impacts on DWSD and rates to remaining customers. The Department's response to those comments stated:

"The DEQ is specifically precluded from using part 327 to "…diminish or create any existing authority of municipalities to require persons to connect to municipal water supply systems as authorized by law" (MCL 324.32726)."

And

"It is appropriately an issue for water service contract negotiations between the regional water system and its customers. To do otherwise invites unwanted intervention of the state into local decision making."

ODWMA cannot on its own assess an actual dollar value to any regional benefit for the City of Flint to remain a full customer of DWSD, but the following should be included in any additional analysis:

- The cost estimates provided in the TYJT report show a cost difference between full KWA and full DWSD participation of $172 million over 30 years.
- The formation of KWA would itself be considered one of the largest regional drinking water authorities in the State in terms of capacity, and as such any regional benefits provided by DWSD may only be marginal in comparison.

Finally, we have additional questions for TYJT regarding the various DWSD supply options and the considerations they made in the operations of the Flint WTP. These considerations will have an impact on the cost estimates for DWSD options.

We look forward to further discussion of these comments during our meetings tomorrow, and please let us know if you have any additional questions for us between now and then.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 26, 2013 3:58 PM
To: Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ)
Cc: Willard, Veronica (DEQ); Shekter Smith, Liane (DEQ)
Subject: RE: Flint Draft Response

I will provide additional follow up by tomorrow (Wed.) afternoon to my previous email below based on our discussion and the conference call with Andy Dillon earlier today.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 26, 2013 12:37 PM
To: Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ)
Cc: Willard, Veronica (DEQ); Shekter Smith, Liane (DEQ)
Subject: Flint Draft Response

Director Wyant,

In preparation for our call today with Treasurer Dillon's office, ODWMA has developed the following for consideration. We can provide any additional info you require during the meeting.

ODWMA has reviewed the materials developed by the consultant Tucker, Young, Jackson, Tull, Inc. (TYJT) for Treasury regarding the City of Flint and potential alternatives for public water supply. Based on our reviews, we have developed the following comments to this point in our analysis:

1. The TYJT report does not contain the full scope of the Karegnondi Water Authority (KWA) raw water supply system. TYJT concerns over raw water supply redundancy and reliability are addressed to the satisfaction of ODWMA under the full KWA proposal. Please note some portions of the overall project are being financed independently by the Genesee County Drain Commission.

2. There are significant differences in contract language between KWA and Detroit Water and Sewerage Department (DWSD) with respect to the contracted maximum day demand capacity.
    a. Under a KWA contract, a "maximum day" capacity of 18 million gallons per day (MGD) would fully satisfy current demands of the City of Flint, without the need to supplement raw water capacity using the Flint River. (18 MGD, average over a 30 day period).
    b. Under a DWSD model contract, a "maximum day" capacity, even at 18 MGD, would not satisfy the current demands for the City of Flint. (18 MGD, over any 24 hour period).

3. Restrictions in contracted capacity that would prevent the City of Flint from meeting peak demand requirements present potential limits to economic development within the City of Flint, including possible connection bans and water system extension bans. This information was previously conveyed to the City of Flint by ODWMA staff.

4. All contract options with DWSD that are considered semi-competitive with the KWA contract do not fully supply the City of Flint, and would require the City of Flint to meet a significant, if not majority, of its water demands by treating water from the Flint River. Continuous use of the Flint River at such demand rates would:
    a. Pose an increased microbial risk to public health (Flint River vs. Lake Huron source water)
    b. Pose an increased risk of disinfection by-product (carcinogen) exposure to public health (Flint River vs. Lake Huron source water)
    c. Trigger additional regulatory requirements under the Michigan Safe Drinking Water Act (LT2ESWTR)
    d. Require significant enhancements to treatment at the Flint WTP, beyond those identified in the TYJT report (see item 5 below).
    e. Water Resource Division is evaluating potential impacts to NPDES wastewater discharge permits in downstream segments of the Flint River, as a result of decreased river baseflow caused by Flint WTP use.

5. The TYJT report does not adequately address increased requirements and costs associated with using the Flint River as a significant source for the Flint WTP, which are not necessary under a Lake Huron source water scenario. This includes:
    a. The need to provide softening treatment
    b. Limitations on disposal options for lime softening sludge
    c. Increased ozone capacity, UV disinfection
    d. Additional backup power, more power required for Flint River operation

6. The Flint WTP must operate at some minimum level and within a range of flow rates to maintain treatment effectiveness. Currently that minimum level is 9 MGD. This level may be reduced with additional capital costs to modify the WTP, not addressed in the TYJT report.

7. Allowing Flint WTP to blend water with DWSD sets a new precedent that could pose future consequences with other DWSD customers.

8. Costs impacts to remaining DWSD customers would be similar under the proposed scenarios, only retaining 8 MGD of 30+ MGD total Flint/Genesee Co. demands, based on the following:
    a. Genesee County distribution system demands are pulling out of DWSD regardless of the decisions by Flint WTP
    b. Flint's need to utilize the Flint River as a source

9. ODWMA anticipates cost savings under the KWA proposal will be leveraged to provide additional improvements to the City of Flint water distribution system, improving efficiency and providing additional cost benefits. The KWA water withdrawal permit (2009-001) includes the required implementation of conservation measures that would also drive these distribution system improvements.

10. Major cost discrepancies in TYJT analysis
    a. Engineering, Legal, Administration, Contingency – TYJT appears to have effectively double charged for these costs in their KWA estimates without adequate justification
    b. Pumping facilities – TYJT cost estimate methodology does not appear to address localized market costs and does not distinguish fixed and variable costs in its comparison analysis.

11. Remaining DWSD customers in Lapeer County could potentially see water quality impacts as a result of Flint joining KWA, if they remain with DWSD. However, indications to ODWMA are that these communities are currently in final negotiations with KWA for service, which would make this a non-issue.
    a. City Lapeer
    b. City of Imlay City

Additional response to the TYJT report has also been provided by Rowe Engineering to Flint EFM, Mr. Ed Kurtz. (Copy Attached)

ODWMA has continued to meet on a regular basis with KWA, Genesee County, and the City of Flint regarding these water supply proposals.

ODWMA will continue to provide any additional detailed analysis requested by Treasury or the DEQ Executive Office.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

City of Flint Water Supply Assessment (TYJT; for Treasury)

DEQ-Drinking Water engineers are responsible for this review. WRD offers one comment however. The KWA pump stations are not supplied with a secondary power source. It would appear that we should ask if this meets "10 States" for drinking water facilities. If power is lost to the pump stations, the Flint WTP would have to be used to supply finished water (with Flint River as the raw source, apparently). It would seem that independent secondary power sources should be provided to the KWA pumping stations to more reliably ensure Lake Huron as the source water.

Potential Financial Impacts on the DWSD (Sewerage Fund):

It is difficult to quantify the potential financial impact of lost drinking water customers in Flint on the Sewerage Fund. Flint is supplied currently with DWSD drinking water but provides their own wastewater treatment. However, the following is offered:

- Some common functions in DWSD serve both Water and Sewerage. These include HR, purchasing, IT, legal, and top administration (including the Water Board). Further, under the proposed EMA organizational approach it appears that some services units would serve both water and sewer. It would follow that lost revenue to the Water Fund would have some incremental effect on the Sewerage Fund to make up for fixed costs.
- Lost revenue to the Water Fund would not translate to less outstanding water system debt. Would an increased level of water debt service to revenue result in a lower credit rating of an independent DWSD? The rating applies to DWSD as a whole. A lower rating would potentially increase costs to borrow on the sewerage side; for such items as CSO correction and WWTP improvements.
- Some have suggested that financial impact on residents consider both water rates and sewerage rates, combined. Although this is not what WRD currently does, should this type of assessment be presented in the future then lost revenue on the water side will increase costs to those remaining in DWSD (to cover the fixed costs). This could potentially increase the residential financial costs as a % of MHI for City residents, and thus further lengthen the time needed to completed non-core CSO corrections as described in the new permit.

Effects on NPDES Dischargers:

1) Which NPDES permits would be affected?
Flint WWTP, Flushing WWTP, and Genesee Co-Ragnone WWTP are in the Flint River model/WLA, so all of these and no others are potentially affected (at least in this immediately d/s WLA).

2) Would we expect permit limits would be modified as a result of this proposal (and decreased background flows)?
Since it appears the withdrawal would be near the head of or upstream of the modeled reaches, it would be assumed that all three facilities' limits would become more restrictive, depending on how we approach any load reductions to meet the DO std.

3) What would be the percent reduction in flow coming out of Holloway Reservoir?
A 1988 WRC 'ruling' requires that Holloway Reservoir release 85 cfs minimum in the summer, fall, and winter seasons. 232.4 cfs was used in spring modeling. 10 MGD = 15.5 cfs, so

15.5 cfs / 85 cfs = 18.2% reduction
69.5 cfs would remain

The withdrawal is below Holloway Reservoir, so the flow out of the reservoir itself wouldn't have to change, but the flow at the first WLA facility (Flint WWTP) is reduced. Maybe the Holloway release flow could be increased 10 MGD. Erik believes that the 85 cfs minimum was to protect the fishery.

From: Busch, Stephen (DEQ)
Sent: Tuesday, September 30, 2014 12:37 PM
To: Thelen, Mary Beth (DEQ) (THELENM2@michigan.gov);Wyant, Dan (DEQ) (WyantD@michigan.gov)
Cc: Richard Benzie P.E. (BENZIER@michigan.gov);prysbym@michigan.gov;Wurfel, Brad (DEQ) (WurfelB@michigan.gov);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: Draft Governors Briefing - Flint Water
Attachments: Governor Briefing - Flint-Draft.docx; Flint Monthly Pumpage Comparison.pdf; ODWMA-399-022.pdf

Director Wyant,

Attached is our draft of a briefing for the Governor's Office regarding City of Flint water system boil water advisories. This is per your request following our meeting last Thursday 9/25.

I have also attached a copy of the policy ODWMA-399-022 which specifically provides guidance regarding boil water advisory situations, and a chart showing the significant increase in the City of Flint's water demands following the extreme conditions experienced this past winter.

If you have any questions or need any additional information, I will be in Lansing this week on Thursday afternoon and Friday morning, and as always you can reach me on my cell phone as listed below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

MDEQ - Governor's Office Briefing - City of Flint Drinking Water (Draft)

What contributed to the Boil Water Advisories in the City of Flint?

A number of factors, not one specific cause, likely contributed to the Boil Water Advisories (BWA's) in the City of Flint during August and September 2014. While use of the Flint River has increased the amount of natural organic matter in the City's water, the City's water treatment plant (WTP) has performed well above treatment requirements for organic carbon removal. In addition, less than 20% of the water system was included in the advisory area. If treatment had been compromised, detections would have been widespread throughout the City, rather than in such a localized area.

The City's water distribution system has suffered from a lack of infrastructure investment and asset management. Most of the City's over 550 miles of water mains are now over 75 years old, and constructed of cast iron piping. Cast iron pipe is subject to internal corrosion, called tuberculation, which causes buildup on the pipe interior leading to water quality issues, reduced flow and pressures, and leakage. Tuberculation also encourages the development of biofilms, layers of bacteria that attach to the interior pipe wall. Biofilm growth is common in areas of piping with little or no disinfectant residual, and together with tuberculation can clog water lines to the point of insufficient water pressure.

The City has also experienced decades of a declining user base and water use associated with vacant homes, commercial businesses and industrial property. Declining water use leads to excess residence time within the City's distribution pipes and water storage facilities, accelerating tuberculation, biofilm growth, and disinfectant residual degradation. While the City has recently seen an infusion of funding for blight removal, contractors completing this work have been improperly using fire hydrants, causing hydraulic disturbances that dislodged and suspended settled debris, which may have contributed to the bacterial contamination.

The winter of 2014 was also one of the coldest experienced by the water system. The City, which historically has unaccounted water losses of over 30%, has seen even greater losses since February due to an increase in cold weather related water main breaks and leaks. The City lacks a formal maintenance program for its over 7,250 valves, which would normally be used to limit impacts during break repairs. Two valves on the transmission line used to supply the area of the BWA were found to be closed during the City's investigation, causing longer residence time, reduced disinfectant residual, reduced flow, and reduced pressure. One of these valves has remained broken.

The BWA's also occurred during the warmest and for 2014 relatively wet periods of August and September. Warm weather conditions are not only more conducive to bacterial growth but also degrade the water's disinfectant residual carried out from the WTP more quickly. Longer residence times, biofilms, and tuberculation also contribute to disinfectant residual degradation. Warm wet weather conditions also allow water contaminated with bacteria to pool around piping with leaks and breaks.

Process for Issuance and Cancelation of a Boil Water Advisory

There are a number of conditions that can trigger boil water advisories. This includes the following:

- Bacteria Monitoring Detections
- Bacteria Standards Violations
- Treatment System Failures
- Waterborne Disease Outbreaks
- Loss of System Pressure
- Water Main Breaks
- Other Interruptions in Service

The DEQ has developed policy regarding BWAs to help guide staff, provide consistency, and maintain public health. A copy of DEQ policy ODWMA-399-022 is attached.

BWA's may be self-initiated by the water system, issued collaboratively in consultation with the DEQ, or when necessary mandated by the DEQ. Requesting customers to boil the water when bacterial contamination has occurred provides an added barrier of public health protection.

The BWA's which recently occurred in the City of Flint were associated with bacteria monitoring detections and violations of bacteria standards. These advisories were issued by the City of Flint collaboratively in consultation with the DEQ.

Current regulations regarding monitoring and standards for bacteria in water distribution systems were developed by the EPA, have been in effect since 1990, and incorporated into the Michigan Safe Drinking Water Act. There are a variety of bacteria, parasites, and viruses which can potentially cause health problems if humans ingest them in drinking water. Testing water for each of these potential pathogens would be difficult and expensive. Instead, water systems test for Total coliform and E.coli. Total coliform bacteria react to water treatment in a manner similar to many pathogens. Therefore, the presence of total coliform in drinking water indicates there may be a pathway for pathogens or other contaminants to enter the system. The absence of total coliforms in the distribution system minimizes the likelihood that pathogens are present. E.Coli is itself a pathogen, and its detection would be direct evidence of a health risk.

Once a BWA has been issued, time is needed to investigate potential causes and implement corrective measures. The larger the water system, the more time this may take. Once corrective measures have been taken, samples must be collected and analyzed to confirm that bacteria are no longer present. Using the most common analytical method, samples must be incubated for a period of 24 hours before results can be obtained. In situations where the bacterial contamination has been confirmed, two consecutive rounds of safe samples collected at least 24 hours apart are normally obtained before canceling a BWA. Adding each of these steps together, a normal response period to cancel a BWA under these circumstances would be expected to take at least 3 to 4 days.

Recent History of City of Flint Water System

Historically the City of Flint had been a customer of the Detroit Water and Sewerage Department (DWSD) while simultaneously maintaining the City of Flint WTP to provide emergency backup service using the Flint River. The WTP performed quarterly test operations to maintain readiness and was utilized twice in 2009, supplying water once for 2 days and the other for 3 days.

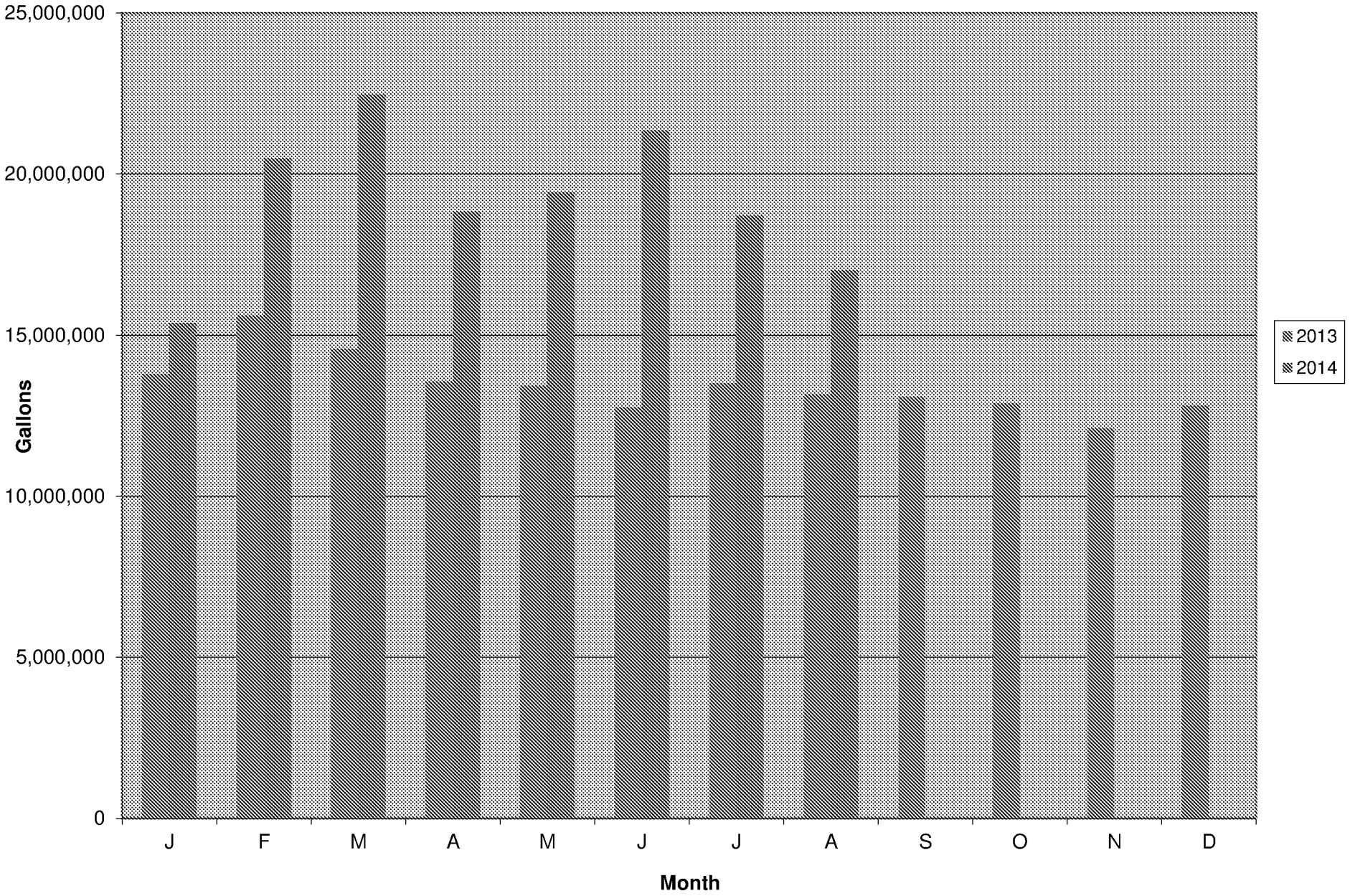
In April 2013, the City of Flint notified DWSD that it would be terminating service in the future and contracting for raw water service from the Karegnondi Water Authority (KWA). Work on the KWA pipeline from Lake Huron broke ground in June 2013 and is expected to be completed with connection in late 2016.

In August 2013, Rowe Professional Services Company completed an engineering proposal for improvements to the City of Flint WTP that would allow continuous operation of the WTP utilizing the Flint River in lieu of continuing service from DWSD until completion of the KWA pipeline. In March 2014, the City of Flint entered into a Consent Agreement with the DEQ regarding the Flint WTP lime sludge facility. In April 2014, the DEQ issued a construction permit for improvements to the Flint WTP. On April 25, 2014 the City of Flint began continuous operation of the WTP, using water from the Flint River and discontinued the purchase of water from DWSD.

A BWA was issued from August 15–20, 2014, for a portion of the City of Flint due to localized detections of Total Coliform and E.Coli bacteria. Another BWA was issued from September 5-9, 2014, due to localized detections of Total coliform bacteria in the same and adjacent portions of the City of Flint. The advisory covered an area approximately 6 square miles. The City of Flint has a total land area just over 34 square miles.

While many of the BWA contributing factors listed above require long term solutions, the City has taken operational steps to limit the potential for a BWA to reoccur. The City has increased flushing of water mains to limit residence time, maintain disinfectant residual, and help remove buildup and deposits within the piping. The City is boosting chlorine disinfectant residual at locations in the distribution system as needed. The City continues to investigate water leaks, water main breaks, and the status and condition of system valves.

City of Flint Monthly Averages



DEQ	OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE POLICY AND PROCEDURE		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: October 12, 2007 **Revised Date:** **Reformatted Date:** January 24, 2013	**Subject:** Guidelines for Issuing Boil Water Advisories to Address Potential Microbial Contamination of Community Water Supplies **Division/Office and Program Names:** ODWMA-Public Water System Supervision Program		**Category:** ☐ Internal/Administrative ☐ External/Noninterpretive ☒ External/Interpretive
	Number: ODWMA-399-022	Page: 1 of 10	

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

INTRODUCTION, PURPOSE, OR ISSUE:

Community water systems are expected to provide customers with a continuous supply of water that meets both federal and state drinking water standards. However, there may be circumstances when the public must be notified that the water may not be safe. In these circumstances, a boil water advisory may be issued to prevent illness from known or suspected microbiological contamination. This policy is to provide guidance to Office of Drinking Water and Municipal Assistance (ODWMA) drinking water program staff on advising community water system personnel when to issue and rescind a boil water advisory, the appropriate content, and the manner and method of delivery.

AUTHORITY:

Administrative rule R 325.10401a promulgated under the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), being Michigan Compiled Law 325.1001 *et seq.*, requires public notification for violations of maximum contaminant levels and treatment techniques plus other situations as determined by the DEQ. Each public notice is required to state what actions consumers should take during a violation, which may include a statement recommending water customers boil all water used for consumption until further notice.

In addition, R 325.11207 allows the DEQ to require the supplier of water to provide notice to customers or users that include any precautionary measures deemed necessary when an interruption in water service occurs, which could include low, zero, or negative pressure events.

Furthermore, R 325.12303 requires a supplier of water to include in their contingency planning a description of precautions or measures to be taken to protect the health of those customers or users that may be affected by an emergency. R 325.12304 also requires a supplier of water to notify the DEQ when an emergency is discovered and how the supply will notify its customers or users. While the content of this notification to customers or users may vary depending upon individual circumstances, each notification to customers or users must state what actions or precautions they should take, which may include a statement to boil all water used for consumption until further notice.

STAKEHOLDER INVOLVEMENT:

DEQ staff met with Municipal Utilities Directors to seek input on issues that were subsequently addressed in this policy and procedure.

DEFINITIONS:

"Boil Water Advisory (BWA)" – A written or verbal advisory issued by the community water system or DEQ notifying the users of the water system that the water is or may be contaminated and advising them to boil the water prior to using it for drinking or cooking.

"Community Water Supply (CWS)" – A public water supply (PWS) that provides year-round service to not fewer than 15 living units, or that regularly provides year-round service to not fewer than 25 residents. Examples include municipalities, such as cities, villages, and townships; apartment complexes; manufactured housing communities; condominiums; and nursing homes.

"Complete Loss of Pressure" – Sustained negative pressures or pressure below five psi in any portion of a distribution system. It does not include instantaneous low or negative pressure occurring from pressure surges caused by pump cycling, valve operation, or other water hammer events.

"Maximum Contaminant Level (MCL)" – The maximum permissible level of a contaminant in water that is delivered to any user of a PWS.

"Repeat Sample" – A sample that is collected and analyzed in response to a previous coliform-positive sample.

"Routine Sample" – A water sample that is collected and analyzed to meet the monitoring requirements for total coliform, as outlined in the written sampling plan.

"Tier 1 Public Notice" – A public notice required to be provided as soon as practical but not later than 24 hours after the supplier learns of a violation or situation that has significant potential to have serious adverse effects on human health as a result of short-term exposure. A Tier 1 Public Notice also requires the supplier to initiate consultation with the DEQ as soon as practical but not later than 24 hours after the supplier learns of the violation or situation. Examples of these violations or situations include:

1. A violation of the Total Coliform MCL when fecal or *E.coli* are present in the distribution system;
2. A violation of the treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit;
3. An occurrence of a waterborne disease outbreak;
4. A failure or significant interruption in key water treatment processes;
5. A disruption of the water supply or distribution system; and

6. Other violations or situations as determined by the DEQ on a case-by-case basis. A violation or situation that requires a Tier 1 Public Notice also requires the supplier to consult with the DEQ to determine additional public notice requirements, including the timing, form, manner, frequency and content of the notice designed to reach all persons served, and any repeat notices or directions. At a minimum, one or more of the following forms of delivery must be used:
   a. Appropriate broadcast media:
   b. Posting of the notice in conspicuous locations throughout the area served by the system;
   c. Hand delivery of the notice to persons served by the system; or
   d. Another delivery method approved by the DEQ.

Within 10 days of completing the Tier 1 Public Notice, the supplier shall submit to the DEQ a certification that it fully complied with the public notification requirements, including a representative copy of the type of notice distributed to persons served by the system and to the media.

"Tier 2 Public Notice" – A public notice required to be provided as soon as practical but not later than 30 days after the supplier learns of a violation or situation that has the potential to have serious adverse effects on human health. Examples of these violations or situations include:
1. All violations of MCL, maximum residual disinfectant level, and treatment technique requirements except where the DEQ determines a Tier 1 notice is required.
2. Violations of monitoring and testing procedure requirements, taking into account potential health impacts and persistence of the violation; and
3. Failure to comply with a variance or exemption.

For a Tier 2 Public Notice, the DEQ may, on a case-by-case basis, grant extensions in writing for up to three months from the date the supplier learns of the violation or situation, for reasons such as coordinating with billing cycles or if the violation or situation was quickly resolved and no longer poses any risk to the persons served. A Tier 2 Public Notice shall be repeated every three months as long as the violation or situation exists. A Tier 2 Public Notice and any repeat notices shall be in a form and issued in a manner that is reasonably calculated to reach persons served in the required time period. At a minimum, the notice shall be provided:
1. By mail or direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the supplier, and
2. By other methods reasonably calculated to reach other persons not receiving a bill, such as apartment dwellers, university students, nursing home patients and prison inmates. Other methods may include:
   a. Publication in a local newspaper
   b. Delivery of multiple copies to apartment complexes and manufactured housing communities
   c. Posting in public places or on the Internet
   d. Delivery to community organizations

"Treatment Technique (TT)" – Minimum treatment requirement or a necessary methodology or technology that is employed by a supplier of water for the control of the chemical, physical, biological, or radiological characteristics of a PWS.

POLICY:

A BWA may be issued for a variety of reasons when microbial contamination is known or suspected. Total Coliform Rule (TCR) MCL violations, surface water TT violations, low or loss of pressure events, and waterborne disease outbreaks are circumstances when a BWA may be issued. Each of these situations is discussed in detail below. However, these situations are not the only times a BWA can or should be issued. Each incident must be handled on a case-by-case basis, using professional judgment to evaluate the circumstances in each situation.

Finally, there may be situations when water systems experience contamination that is not microbial, but chemical due to a chemical spill or backflow due to a cross connection. In these cases, a notice to customers could include "Do Not Use" language since boiling the water may not remove the contamination.

Types of Incidents:

1. Violation of a Drinking Water Standard

   a. TCR MCL Violations

      An acute TCR MCL violation occurs when monitoring indicates the presence of coliform organisms in both a routine and a follow-up repeat sample in the same monitoring period, and either analysis (routine or repeat) is also positive for fecal or *E.coli*. Because this MCL violation confirms the presence of a more direct connection to contamination, these violations warrant issuance of a BWA, unless there are unique circumstances.

      A non-acute TCR MCL violation occurs when monitoring indicates the presence of coliform bacteria in 2 or more samples in the same monitoring period for a supplier collecting less than 40 samples per month, or in more than 5 percent of the samples for a supplier collecting 40 or more samples per month, and the criteria for an acute violation did not occur, i.e., fecal coliform or *E.coli* were NOT detected present in either a routine or repeat sample. For example, a system that collects 5 samples per week for a total of 20 per month may have 1 sample report positive for total coliform or fecal/*E.coli* during the first week, but all repeat samples report negative for coliform. If another sample in a subsequent week also reports total or fecal/E.coli positive, but again, all repeat samples are coliform-negative, then a non-acute TCR MCL violation has occurred because 2 or more samples reported positive for coliform, but no fecal coliform or *E.coli* were detected in both a routine and a repeat sample.

When a non-acute violation occurs, staff should evaluate possible sources of contamination. If a source is identified that is considered likely to contribute disease causing organisms or result in water of questionable quality still being distributed, a BWA should be instituted. Examples of contaminant sources that would elevate the public health risk include, but are not limited to:

- flooding of the wells
- failure of the treatment system
- recent construction activity in the distribution system
- vermin (birds, rodents, etc.) activity in storage tanks
- system-wide or extensive pressure loss in the distribution system

Even if the source of contamination is not easily identified, a BWA may be appropriate for a non-acute TCR violation if the violation is widespread or ongoing. A BWA shall be instituted if monitoring indicates *E. coli* or fecal coliform contamination unless unusual circumstances warrant consideration, such as the absence of any coliform in repeat samples, or when staff are assured that the contamination has been eliminated before confirmation results are available.

However, not every TCR MCL violation must result in a BWA. There may be a few exceptions when there is a TCR MCL violation but a BWA is not needed. For example, a violation may be declared in situations where samples collected on different days from widely dispersed locations report coliform present even though repeat samples do not show positive results. In this case, the sampling results may constitute a MCL violation, but a BWA may not be necessary.

If a BWA is deemed necessary by the ODWMA, it should be issued as soon as possible but no later than 24 hours after the system learns of the violation. Because violation of an MCL results in required public notification (PN) per the PN Rule, the water supply may issue the PN and BWA simultaneously in one document (highly recommended) and must meet all the requirements of a Tier 1 PN and include BWA language.

After measures have been taken to eliminate the source(s) of contamination, such as initiating or increasing chlorine feed rates and system flushing, additional sampling must be conducted. Raw water bacteriological sampling is also encouraged to eliminate the raw water as the possible source of contamination. For MCL violations, the BWA can be rescinded after the analyses of two sets of samples collected 24 hours apart report the absence of coliform bacteria. The number of samples in each set should be a minimum of five samples, but can be decreased or increased based on system size or the extent of the affected area. Systems are encouraged to use routine sample sites if available and to use extra care if routine sites are not available.

b. Surface Water Treatment Rule (SWTR) TT Violations

SWTR TT violations include:

- exceedance of turbidity standards at filter confluence point
- failure to meet disinfection contact time requirements (C*T)
- failure to meet disinfection residual standards

Upon determination of an SWTR TT violation, ODWMA staff must determine if the violation poses a threat to public health. For example, if the turbidity levels at the filter confluence point were found to have exceeded 0.3 nephlometric turbidity units (NTUs) in 95 percent of the samples in a two-month period, an SWTR TT violation has occurred. Based upon a review of plant performance and consultation with program managers, staff may determine that no significant health risk was posed and no BWA is necessary. However, the water supply must still issue a Tier 2 PN within 30 days of the violation. On the other hand, a BWA is likely to be necessary for a treatment plant that gets overwhelmed by excessive runoff and reports a turbidity level in excess of 1.0 NTU at the filter confluence point for a four-hour period.

If the TT violation is ongoing or prolonged, or the ODWMA determines a significant public health risk is posed, ODWMA staff may elevate the PN to Tier 1 status, which must be issued within 24 hours and include BWA language. After appropriate measures have been taken to reduce or eliminate any health risk, additional monitoring must be conducted. Appropriate measures may include increasing coagulant dose, increasing chlorine residuals through the treatment plant, backwashing filters more often and flushing key system components. In this case, a BWA can be rescinded after analyses of two sets of samples collected 24 hours apart report the absence of coliform bacteria. The number of samples in each set should be a minimum of five samples, but can be decreased or increased based on type and severity of the TT violation.

Surface water plants utilizing conventional or direct filtration must add a primary coagulant under R 325.11008. Failure to add a primary coagulant is a violation of Act 399, and may also contribute to a TT violation under R 325.10611 (Filtration and Disinfection) which requires 3-log inactivation of giardia and 4-log inactivation of viruses. In these cases, ODWMA staff will have to determine if the violation poses a threat to public health and whether other actions are necessary, such as requiring a BWA. Factors to consider if a BWA is necessary would include chlorine residual concentrations throughout the treatment plant, raw water quality, C*T compliance, plus individual filter effluent and combined filter effluent turbidity levels.

2. Waterborne Disease Outbreaks

Waterborne disease outbreaks can be declared by the Centers for Disease Control and Prevention, the Department of Community Health, a local health department, or other public

health institutions. If an outbreak is declared, the ODWMA will work with the declaring agency to ensure affected community public water supplies take appropriate measures to mitigate public exposure. These measures will include appropriate public notification, including instructions to boil water if appropriate. The ODWMA will allow the water supply to rescind the notification when the agency declaring the outbreak indicates it is safe to do so as the result of additional monitoring.

3. Interruptions in Service

   a. Negative or Complete Loss of Pressure

      A complete loss of pressure or negative pressure in the distribution system must result in a BWA being issued to all water customers in the impacted area. After pressure is restored and the system recovers (tanks are filling and enough sources are operating to ensure pressures do not drop again), the affected area should be thoroughly flushed and coliform samples must be taken throughout the area to determine if the distribution system remains free of coliform contamination. The number of samples will vary depending on the size of the system and the extent of the area impacted. For very small systems that experience a power failure that results in a complete loss of pressure throughout the distribution system, a minimum of three samples should be collected. If applicable, chlorine residual measurements should be taken to ensure that an adequate disinfectant residual is present. If possible, chlorine dosages and residuals should be increased by 1 to 2 parts per million during this period as a corrective and preventive measure. If the first round of sampling does not detect coliform bacteria, the advisory may be rescinded. However, if the first round of sampling detects coliform bacteria, additional flushing should be conducted in the area where the positive coliform samples were collected and a second round of coliform samples collected from the area. The BWA should remain in effect until safe coliform sample results are obtained.

   b. Low Pressure Events

      Low pressure events might not result in a BWA. Low pressure is considered a drop in pressure below 20 psi but greater than 5 psi. A drop in water pressure in a distribution system could allow contamination to enter the water system through backflow by backpressure or backsiphonage. The decision to issue a BWA should be made on a case-by-case basis and be based upon professional judgment of all available data that may indicate the extent of the problem, such as:

      - Geographical extent of the pressure loss
      - Nature of the service area (residential vs. commercial/industrial)
      - Duration of the low pressure condition
      - Disinfection practices of the water system
      - Relative elevation differences in the service area
      - Status of the local cross connection control program

- Age and condition of the underground piping
- Amount of underground piping located in areas of a high groundwater table
- Ability and willingness of the operators to rapidly apply chlorine to the system or distribute an increased chlorine residual throughout the affected area

After normal pressure is restored, the impacted area should be thoroughly flushed and coliform samples taken throughout the area to determine if the distribution system is free of any bacteriological contamination. The collection of coliform samples after low pressure events is not absolutely required, but may be recommended based on the factors above.

c. Water Main Breaks or Repairs

A BWA may be issued during water main breaks and after the break has been repaired. Whether or not to issue a BWA will depend on the location and severity of the break and, more importantly, a decision based on sound engineering judgment that the integrity of the water system has been maintained. If at all possible, repairs should be performed under reduced or low pressure by closing the closest valves on each side of the break just enough to reduce the flow so the repairs can be made under pressure while the water flowing from the break is diverted away from the excavation to maintain clean sanitary conditions. If the water main can be repaired under pressure, and no nonpotable water, soil, or other potential contaminants entered the main during the break and repair process, then a BWA is not necessary. If the water main that was removed from service is flushed, disinfected, and sampled in accordance with AWWA Standard C651 before being placed back into service, a BWA does not need to be issued.

If a water main break results in a complete loss of pressure before, during, or after the repair is made, a BWA must be issued to all customers in the affected area. The BWA should remain in effect until the area is flushed, chlorine residuals are reestablished (if applicable), and sample results do not detect coliform bacteria.

Content and Delivery of a BWA

If the ODWMA determines a BWA is necessary, the water supply must issue the advisory as soon as practical, but not later than 24 hours after being advised to do so. The supply must make a good faith attempt to notify all customers in the affected area. Appropriate methods of distribution are situation specific, but may include radio or television broadcasts, hand delivery, and/or posting in conspicuous locations throughout the area. Delivery requirements as detailed in the PN Rule should be used to determine appropriate delivery methods.

Although there are content requirements for public notification under the PN Rule, there are no requirements specific to boil water language. To ensure all appropriate information is transmitted to the customers, a BWA should include the same content elements as required for

public notification under the PN Rule. If a BWA is issued as the result of an MCL violation and the water supply issues the BWA in conjunction with the required PN (highly recommended), the content MUST meet all PN Rule content, delivery, and reporting requirements.

The ODWMA boil water language is consistent with the U.S. Environmental Protection Agency policy that requires water be brought to a boil and allowed to boil for one minute before use. The language also suggests the use of bottled water as an alternative to boiling and describes the circumstances under which boiled or bottled water should be used.

Staff should notify the appropriate local health department and the Department of Agriculture and Rural Development, Food and Dairy Division, whenever a BWA is issued or rescinded. These agencies may receive calls from concerned customers or be involved in oversight of facilities impacted by the boil advisory and, therefore, need to be aware of the situation.

Several BWA templates have been created and are available to ODWMA staff on the DEQ Intranet. To ensure consistency and inclusion of all necessary content, these templates should be used as the basis for PNs and/or a BWA. Available templates include, but are not limited to:

- Advisory for a TCR MCL.
- Advisory for a low/no pressure event.
- Notification for cancellation of a BWA.

PROCEDURES:

WHO	DOES WHAT
Public Water Supply	Notify DEQ of results in a timely manner as required by law and follow through with appropriate actions.
District Staff	Respond to all TCR and TT violations plus complete loss of pressure events in a timely manner and determine whether a BWA needs to be issued. • If needed, assist supply in drafting BWA and determining most appropriate method of delivery with approval from the District Supervisor. • If needed, assist the supply in determining actions to remove the possible contamination including steps needed to rescind the BWA.
District Staff	Provide on-site technical assistance for acute TCR MCL violations and other boil water situations as appropriate.
District Supervisors	Assist District Staff in the all matters pertaining to issuing a BWA.

REFERENCES:

Safe Drinking Water Act, 1976 PA 399, as amended, being Michigan Compiled Law 325.1001 *et seq.*, and the administrative rules promulgated thereunder, being R 325.10101 *et seq.* of the Michigan Administrative Code.

OFFICE CHIEF APPROVAL:

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance

1/18/2013
Date

DEPUTY DIRECTOR APPROVAL:

Jim Sygo, Deputy Director

1/24/2013
Date

From: Busch, Stephen (DEQ)
Sent: Thursday, May 28, 2015 12:15 PM
To: Howes, Sarah (DEQ)
Cc: Benzie, Richard (DEQ);Devereaux, Tracy Jo (DEQ);Shaler, Karen (DEQ);Potter, Jodi (DEQ);Shekter Smith, Liane (DEQ);Prysby, Mike (DEQ);Wurfel, Brad (DEQ) (WurfelB@michigan.gov);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Potter, Jodi (DEQ);Pallone, Maggie (DEQ)
Subject: RE: Communications between City of Flint and DEQ
Attachments: Flint-2015-02-13-AnnualMonSched.pdf; Flint-2015-03-05-TTHM-VN-15-1.pdf; Flint-2015-03-30-PbCu90.pdf; Flint-2015-04-03-LT2ESWTR.pdf; Flint-2015-04-03-Permit151018.pdf; Flint-2015-05-06-CCR-reminder.pdf; Flint-2015-05-11-CCCP.pdf; S2 Grant Project No 9204.01 City of Flint.pdf; RE: Premise plumning; Water Quality Optimization Strategy; call; Flint MORs; Flint River Source Water Assessment; FW: PEAS call; FW: Schematics for LT2 sampling plans; FW: Water Supply Sources; Premise plumning; RE: City of Flint - March Bromate Results; RE: City of Flint March 2015 MOR; RE: City Water Tech Team; RE: HC Letter & FAQ's; RE: May_Technical Advisory Meeting; RE: PEAS call; RE: RE: Flint Water Age map; RE: TTHM Draft Letter; RE: Water Supply Sources; Residential customers; Watermain breaks; distribution WQPs; January '15 MOR; Lead Copper Cert form; RE: City of Flint Water Plant Monitoring Results; RE: distribution WQPs; RE: distribution WQPs; RE: January '15 MOR

Sarah,

Per the request from Representative Neely, attached are communications from the DEQ Office of Drinking Water and Municipal Assistance (ODWMA) to the City of Flint dating back to February 2015.

This includes:
1 construction permit
7 letters
7 emails from Adam, Rosenthal, Environmental Quality Analyst
18 emails from Mike Prysby, District Engineer
2 emails from Steve Busch, District Supervisor

Please let us know if we can provide any further assistance in addressing Representative Neely's request or if they have any questions or issues we could help answer.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, May 26, 2015 1:59 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Benzie, Richard (DEQ); Devereaux, Tracy Jo (DEQ); Howes, Sarah (DEQ); Shaler, Karen (DEQ); Potter, Jodi (DEQ)
Subject: FW: Communications between City of Flint and DEQ
Importance: High

Note the deadline of COB Thursday to Sarah.

From: Pallone, Maggie (DEQ)
Sent: Tuesday, May 26, 2015 1:21 PM
To: Shekter Smith, Liane (DEQ)
Cc: Wurfel, Brad (DEQ); Wyant, Dan (DEQ); Howes, Sarah (DEQ); Thelen, Mary Beth (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); DEQ-Legislative-Contact; Potter, Jodi (DEQ)
Subject: Communications between City of Flint and DEQ

Liane,
Rep Neely has requested any communications that DEQ has had with City of Flint between February 2015 and today. Could you please pull that information together and get it to Sarah by COB on Thursday? She will then forward it the Representative's office.

Please let me know if you need any additional details.

Thanks,
Maggie

Maggie Pallone
Director of Legislative Affairs
Department of Environmental Quality
PPI (cell)
PalloneM@michigan.gov

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

February 13, 2015

Mr. Brent Wright
City Of Flint - D P W
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Drinking Water Monitoring Schedule – 2015
Annual Reports

Enclosed is your Drinking Water Monitoring Schedule for calendar year 2015 outlining the minimum requirements for your public water supply. Collect samples early in the monitoring period of the year indicated on the schedule. If you use a private laboratory you are required to report the results to us within the first ten days of the month following the month that you received the results. To receive credit for monitoring, the **"WSSN"** (water supply serial number), the **"Site Code,"** and **"County"** must appear on the sample result. Bottles will NOT be mailed automatically. If you use the DEQ Laboratory, you can order bottles by calling 517-335-8184. Be certain of the EPA sampling and analysis method requirements for hold times.

The Michigan Safe Drinking Water Act requires certain reports to be submitted to this office each year. Please remember that cross connection reports and annual pumpage reports are due by March 31, and the **Consumer Confidence Report** is due by July 1.

Also enclosed is the document "2015 Monitoring and Reporting Requirements." This provides additional details about monitoring and reporting requirements. If you have any questions, please contact us by telephone or email using the information below.

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-290-8817

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

MFP:AR:JR

Enclosure
cc/encl: Mr. Mike Glasgow, City Of Flint

2015 Monitoring Schedule

FLINT, CITY OF

WSSN: 02310

Collect samples early in the monitoring period. This schedule reflects your expected routine monitoring and is subject to change. To receive credit for monitoring, include the **WSSN, Site Code,** and **County** on your request for analysis form. Collect Bacteriological and Automated Partial Chemistry samples close to the shipping time and send overnight delivery. Send all sample results to your Department of Environmental Quality (DEQ) district office unless you use the DEQ laboratory. Test codes, sample units, and costs are listed to help you complete the DEQ laboratory form. Prices are subject to change without notice. The DEQ laboratory is closed on state holidays.

Location: Plant Tap

Collect these samples at the entry point to the distribution system (after treatment, if applicable.)

Sample Type	# Samples/ Frequency	Collect Before	Site Code	Fee	Unit Number	Test Code
Automated Partial Chemistry	This DEQ lab scan includes nitrate, nitrite, fluoride, and sodium whose monitoring frequency requirements differ from one another. Before requesting analyses from a laboratory other than the DEQ laboratory, check with your DEQ district staff for the specific monitoring requirements.					
	1/3 months	**Quarterly**	TP001	$18.00	32	R
Volatile Organic Compounds	1/3 months	**Quarterly**	TP001	$100.00	36VO	CXVO
Complete Metals	1/36 months	09/30/2017	TP001	$102.00	36ME	CMET2
Arsenic	1/3 months	**Quarterly**	TP001	$18.00	36ME	CAS
Cyanide	1/3 months	**Quarterly**	TP001	$25.00	36CNa	CCN
SOC – Pesticides	1/3 months	**Quarterly**	TP001	$125.00	36PT	CXPT
SOC – Herbicides	1/3 months	**Quarterly**	TP001	$120.00	36HB	CXHB
SOC – Carbamates	1/3 months	**Quarterly**	TP001	$120.00	36LP	CXLP
Bromate	1/1 months	**Monthly**	TP001	Not performed at the DEQ Laboratory. A list of certified labs is at www.michigan.gov/DEQ. Select Water, Drinking Water, Community Water Supply, then Certified Labs under Programs and Activities.		
Gross Alpha (Radiological)	1/3 months	**Quarterly**	TP001			
Radium 226 & Radium 228	1/3 months	**Quarterly**	TP001			
Water Quality Parameters	25/3 months	**Quarterly**	TP001	Various	Various	Various
Total Organic Carbon (TOC)	Pair/Monthly	**Monthly**	TP001	$35.00	36TO	CTOC
	Monitor for TOC in the source water before any treatment at the same time as monitoring for TOC in the treated water. These samples (source water and treated water) are referred to as "paired samples." Collect the treated water sample not later than the point of combined filter effluent turbidity monitoring and representative of treated water.					
Expanded SOCs						
Dalapon & Haloacetic Acids	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$130.00	36HA	CXHA
Diquate	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$150.00	36DQ	CXDQ
Endothall	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$150.00	36EN	CXEN
EDB & DBCP	1/12 months	**Between 04/01 and 09/30/2015**	TP001	$70.00	36VO	CXEV

2015 Monitoring Schedule

FLINT, CITY OF

WSSN: 02310

Collect samples early in the monitoring period. This schedule reflects your expected routine monitoring and is subject to change. To receive credit for monitoring, include the WSSN, Site Code, and County on your request for analysis form. Collect Bacteriological and Automated Partial Chemistry samples close to the shipping time and send overnight delivery. Send all sample results to your Department of Environmental Quality (DEQ) district office unless you use the DEQ laboratory. Test codes, sample units, and costs are listed to help you complete the DEQ laboratory form. Prices are subject to change without notice. The DEQ laboratory is closed on state holidays.

Location: Distribution System

Sample Type	Collect Samples According to the ...	# Samples/ Frequency	Collect	Site Code	Fee	Unit Number	Test Code
Bacteriological – coliforms	TCR Sampling Site Plan	100/Monthly	**Monthly**	DIST	$16.00	30	BPTC
Chlorine Residual	DBP Monitoring Plan	If serving chlorinated water, measure the residual disinfectant level at the same point and at the same time as the bacteriological sample and report the average to the DEQ.					
Total Trihalomethanes	DBP Monitoring Plan	8/3 months	**During February, May, August and November 2015**	See DBP Monitoring Plan	$65.00	36VO	CXTM
Haloacetic Acids		8/3 months	**During February, May, August and November 2015**	See DBP Monitoring Plan	$130.00	36HA	CXHA
Water Quality Parameters	Representative Sites	25/Quarterly	**Quarterly**	DIST	Various	Various	Various
Lead Copper for Corrosion Control	Lead and Copper Sampling Pool	100/6 months	**Between 1/1 and 6/30/2015**	DIST	$26.00	36CC	CCUB

Community Water Supply
2015 Monitoring and Reporting Requirements

Please Monitor Early: Collect samples early in the monitoring period (month, quarter, year) of the year indicated on the schedule. Bacteriological and partial chemistry samples should be collected close to the shipping time and sent overnight delivery to assure sample holding times are not exceeded (30 and 48 hour hold times respectively). We also recommend avoiding mailing bacteriological samples immediately preceding or following a holiday because samples tend to exceed the 30 hour hold time. When this occurs, a repeat sample must be collected as soon as possible upon notification.

If you use a private laboratory please report the results to us within the first ten days of the month following the month that you received the results. A list of certified laboratories is available on request. If samples are not collected as indicated on your monitoring schedule, you will incur a monitoring violation and possibly a fine. For information on the fines policy, visit http://michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, and Administrative Fines (under Laws and Rules).

To receive credit for monitoring, you must include the **"WSSN"** (water supply serial number), the **"Site Code,"** and the **"County"** when you submit samples for analysis. Site codes are listed on your monitoring schedule.

Special Instructions If You Use The DEQ Laboratory: Bottles will NOT be mailed automatically. To order bottles, call the DEQ Laboratory at 517-335-8184 or download the form EQP 2301 *Requisition for Water Sample Units* from www.michigan.gov/deq. Click on Key Topics, Laboratory Services, Drinking Water, Obtaining The Necessary Sampling Units, and 'test list'. Please note that the DEQ laboratory is closed on most state holidays. The DEQ laboratory prices are subject to change without notice.

Special Instructions For Automated Partial Chemistry, VOC and TTHM Samples: These sample bottles must be cooled and preserved during shipment to the laboratory. If you use the DEQ laboratory, you will receive the ice pack, acid dropper (if necessary) and small cooler when you request the bottles. Samples must be preserved correctly to be used for compliance purposes. To avoid resampling follow instructions contained with the sample bottle. If you would like more information, contact the DEQ lab, at 517-335-8184, or contact this office.

Cyanide: Previously, supplies that chlorinated the water were waived from monitoring for cyanide. The U.S. EPA now requires all supplies to sample the entry point for cyanide.

UCMR3 Monitoring: You may have monitoring requirements in 2015 under the third Unregulated Contaminant Monitoring Rule (UCMR3). The U.S. EPA will contact you directly if your water supply is required to monitor in 2015. A list of laboratories certified to analyze the samples collected for UCMR3 is available at http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/upload/lablist.pdf. Contact the U.S. EPA with questions.

Reminder if Lead and Copper Monitoring Due This Year: Provide individual lead tap results to people who receive water from sites that you sampled, even if lead was not detected, within 30 days of learning the results. Send us a certification that you met all the delivery requirements along with a sample copy of the customer notice within 3 months after the end of the monitoring period. Water supplies that failed to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule." To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit www.michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, and Reporting Forms (under Manuals, Forms & Brochures).

Annual Reports: These reports are due to this office each year.

- The **Cross Connection Report**, due by March 31, describes the status of your local cross connection control program. Manufactured housing communities are exempt from this requirement until 2016.

  Each year, water supplies must submit this report, even if a formal program has not been implemented. If cross connections do not exist in your water system, indicate so on the report. Download the Cross Connection Report form from http://michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, Reporting Forms (under Manuals, Forms & Brochures). Instructions are included with the form.

- The **Annual Pumpage/Usage Report**, due by March 31, is required of water supplies that do not submit monthly operation reports.

  This summary of water pumpage and water use must be submitted by each water supply that does not submit a monthly operation report. To manage our natural resources, pumpage data are compiled to determine water use demands in Michigan. Download the Annual Pumpage/Usage Report form from http://michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, Reporting Forms (under Manuals, Forms & Brochures). Please be sure to indicate the appropriate units on the report (e.g. million gallons or gallons).

- The **Consumer Confidence Report**, due by July 1 to your customers, to your local health department and to this office, describes the quality of the water and characterizes the risks, if any, from exposure to contaminants detected..

  Electronic delivery methods may be used to distribute the CCR to bill-paying customers, provided the method is direct. A paper copy must be delivered to bill-paying customers who request it or known to be unable to receive the CCR electronically. For more information on e-delivery, visit www.michigan.gov/deqwater. Click on Drinking Water, Community Water Supply, Consumer Confidence Report Rule (under Laws and Rules).

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

March 5, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice (VN) – Maximum Contaminant Level for Total Trihalomethanes (TTHM)
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the city of Flint (City) is in violation of the Safe Drinking Water Act,1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with R 325.10610, *MCLs*, of the 1979 Administrative Code, the MCL for disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/L which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R 325.10719l, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the DEQ not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that the TTHM OELs for the City exceed 0.080 mg/L at one of the City's eight sample site locations.

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	**0.162**	**0.145**	0.059	0.0162	**0.096**	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	**0.112**	**0.127**	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	**0.097**	**0.118**	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	**0.106**	**0.196**	**0.094**	0.0245	**0.105**	**0.085**
DBP5 Taco Bell 3606 Corunna Road	0.079	**0.181**	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	**0.088**	**0.144**	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	**0.082**	**0.112**	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	**0.112**	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014, and February 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation Report dated February 27, 2015, and will provide the City and their consultant with comments, as needed, to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719l (R 325.10719l) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday, May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this VN, please provide them in a written response by March 19, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice**. This violation must also be included in your 2015 Consumer Confidence Report, due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least $1,000 per event, with a maximum of $5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov; or at DEQ, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and Municipal Assistance
517-290-8817

Adam Rosenthal, Environmental Quality Analyst
Lansing District Office
Office of Drinking Water and Municipal Assistance
517-284-6644

Enclosure

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Daughtry Johnson, City of Flint
Genesee County Health Department
Ms. Liane Shekter Smith, DEQ
Mr. Richard Benzie, DEQ
Mr. Stephen Busch, DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014, and February 17, 2015). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the MCL. The standard for TTHMs is 80 micro grams per liter (µg/L). The location reporting the highest TTHM level was 105 ug/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.

- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent four quarters, we are still out of compliance with the MCL at two of eight locations.

For more information, please contact Mr. Brent Wright at 517-787-6537, or the Flint Water Plant at 4500 North Dort Highway, Flint, Michigan 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION: WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed

Reminder to water supplier: This notice/certification must be sent to the Department of Environmental Quality.

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

March 30, 2015

Mr. Brent Wright
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear Mr. Wright:

Subject: City Of Flint WSSN: 02310
Lead and Copper Monitoring of Drinking Water Taps

We received your report for the monitoring period July 1, 2014, through December 31, 2014.

Action Levels	Results this monitoring period		Next monitoring period	
	90th Percentile	# of Samples Above Action Level	# of Samples Required	Take Samples Within These Dates
Lead 15 parts per billion (ppb)	6.0 ppb	2	100	1/1 and 6/30/2015 Submit results to this office by July 10, 2015
Copper 1.3 parts per million (ppm)	0.11 ppm	0		

Ninety percent of the sites you tested are within action levels under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended. These results must be reported on your 2014 Consumer Confidence Report (CCR) due to our office, your customers, and the local health department, by July 1, 2015. Also include the following statement in the CCR, regardless of the lead and copper levels:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://water.epa.gov/drink/info/lead.

Recent changes to the Lead and Copper Rule require you to provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of your customer notice by 3 months after the end of the monitoring period. To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms. Water supplies that fail to distribute the Consumer Notice of Lead Results must include the following statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule."

Samples due the next monitoring period mark your second six month round of monitoring. Please make every attempt to select the same sites used in the previous monitoring period, giving Tier 1 sites first priority. If original sites are unavailable, select replacement sites based on the Tier 1, 2, and 3 criteria. We strongly encourage you to sample early in the monitoring period.

Bottles will NOT be mailed automatically. To order bottles, call the Department of Environmental Quality laboratory at 517-335-8184, or download the form EQP 2301 *Requisition for Water Sample Units* from www.michigan.gov/deq. Click on Key Topics, Laboratory Services, Drinking Water, Obtaining the Necessary Sampling Units, and test list.

Sincerely,

Adam Rosenthal, EQA
Office of Drinking Water and Municipal Assistance
Lansing District
517-284-6644
rosenthala@michigan.gov

ar/jlr
Enclosures

cc: Mr. Michael Glasgow, City of Flint

2310

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

April 3, 2015

Mr. Brent Wright
City of Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

Dear: Mr. Wright

SUBJECT: Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule)
2nd Round of Source Water Monitoring Requirements

The LT2 Rule was promulgated by the United States Environmental Protection Agency on January 5, 2006. The Department of Environmental Quality (DEQ) adopted this rule into the Administrative Rules in December, 2009. All public water systems that are supplied by a surface water source, and systems supplied by a ground water source under the direct influence of surface water (GWUDI), are subject to this rule.

According to the LT2 Rule, systems are required to conduct an initial and a second round of source water monitoring for each plant that treats a surface water or GWUDI source. Please keep in mind that grandfathering data will not be accepted for the second round of monitoring. This monitoring includes at least one source water *Cryptosporidium*, *E. coli*, and turbidity sample per month for a period of 24 months for systems serving populations greater than 10,000 people. Systems will be assigned to a "treatment bin" based on the results of source water monitoring. The treatment bin specifies the level of *Cryptosporidium* removal and/or inactivation that the system must achieve.

Our records indicate that your system is required to comply with the source water monitoring requirements on Schedule 2 as stated below in Table 1. Therefore, your system is required to submit to the DEQ, a source water monitoring plan for each plant by July 1, 2015, and start the 2nd round of monitoring in October, 2015.

Table 1 – LT2 Milestone Dates for 2nd Round of Source Water Sampling

System Population	Schedule	Must submit Source Water Sampling Plan by...	Must begin second round of source water monitoring...
At least 100,000	1	January 1, 2015	April 1, 2015
50,000 – 99,999	2	July 1, 2015	October 1, 2015
10,000 – 49,999	3	July 1, 2016	October 1, 2016
<10,000	4	July 1, 2017	October 1, 2017

Enclosed with this letter is a Source Water Sampling Plan template that you can complete and submit to this office to comply with the July 1, 2015, deadline. The template includes instructions and a worksheet that will assist the DEQ in determining if your plan meets the requirements of the LT2 Rule.

If you have any questions about this subject, feel free to contact me at 517-290-8817; prysbym@michigan.gov; or Department of Environmental Quality, Office of Drinking Water and Municipal Assistance, Lansing District Office, 525 West Allegan Street, 1st Floor South, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,

Michael F. Prysby, P.E.
District Engineer
Field Operations Section
Office of Drinking Water and
Municipal Assistance

Enclosures

cc: Mr. Howard Kroft, City of Flint

2310

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT APPLICATION FOR WATER SUPPLY SYSTEMS

(CONSTRUCTION - ALTERATION - ADDITION OR IMPROVEMENT) AS DESCRIBED HEREIN

Required under the Authority of 1976 PA 399, as amended

This application becomes an Act 399 Permit only when signed and issued by authorized Michigan Department of Environmental Quality (DEQ) Staff. See instructions below for completion of this application.

1. Municipality or Organization, Address and WSSN that will own or control the water facilities to be constructed. This permit is to be issued to:

City of Flint
Water Service Center
3310 E. Court Street
Flint, MI 48506
WSSN: 2310

2. Owner's Contact Person (provide name for questions):

Contact: Rob Bincsik
Title: Supervisor of Water Distribution & Sewer
Phone: (810)766-7202

Permit Stamp Area (DEQ use only)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT NO. W 151018 APR 3 2015

EXAMINED AND APPROVED FOR COMPLIANCE WITH ACT 399, P.A. 1976

MFP

3. Project Name (Provide phase number if project is segmented):

4-inch Water Main Replacement (contract/phase 1)

4. Project Location (City, Village, Township):
City of Flint

5. County (location of project):
Genesee

ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF THE DEPARTMENT OF ENVIRONMENT QUALITY

cc:

Issued by: Michael Prysby

Reviewed by: Michael Prysby

☐ **If this box is marked see attached special conditions.**

Instructions: Complete items 1 through 5 above and 6 through 21 on the following pages of this application. Print or type all information except for signatures. Mail completed application, plans and specifications, and any attachments to the DEQ District Office having jurisdiction in the area of the proposed construction.

Please Note:

a. This **PERMIT** only authorizes the construction, alteration, addition or improvement of the water system described herein and is issued solely under the authority of 1976 PA 399, as amended.
b. The issuance of this **PERMIT** does not authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other DEQ permits, or approvals from other units of government as may be required by law.
c. This **PERMIT** expires two (2) years after the date of issuance in accordance with R 325.11306, 1976 PA 399, administrative rules, unless construction has been initiated prior to expiration.
d. Noncompliance with the conditions of this permit and the requirements of the Act constitutes a violation of the Act.
e. Applicant must give notice to public utilities in accordance with 1974 PA 53, (MISS DIG), being Section 460.701 to 460.718 of the Michigan Compiled Laws, and comply with each of the requirements of that Act.
f. All earth changing activities must be conducted in accordance with the requirements of the Soil Erosion and Sedimentation Control Act, Part 91, 1994 PA 451, as amended.
g. All construction activity impacting wetlands must be conducted in accordance with the Wetland Protection Act, Part 303, 1994 PA 451, as amended.
h. Intentionally providing false information in this application constitutes fraud which is punishable by fine and/or imprisonment.
i. Where applicable for water withdrawals, the issuance of this permit indicates compliance with the requirements of Part 327 of Act 451, Great Lakes Preservation Act.

6. **Facilities Description** – In the space below provide a detailed description of the proposed project. Applications without adequate facilities descriptions **will be returned**. SEE EXAMPLES BELOW. Use additional sheets if needed.

8400 Feet of 24-inch water main from Pasadena Avenue and Iroquois Avenue, South, 20 blocks, along Iroquois Avenue from Pasadena Ave. to Stockdale St.
East, Jog of Approx. 100 feet, along Stockdale Street from Iroquois Ave. to Euclid Ave.
South, 1 block, along Euclid Avenue from Stockdale St. to Welch Blvd.
West, 1 block, along Welch Boulevard from Euclid Ave. to Seminole St.
South Southwest, 3 blocks, along Seminole Street from Welch Blvd. to DuPont St.
South, 10 blocks, along Dupont Street from Seminole St. to Mackin Road.
Water main is stubbed south of Mackin Road for future additions.

EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES – EXAMPLES	
Water Mains	500 feet of 8-inch water main in First Street from Main Street north to State Street. OR 250 feet of 12-inch water main in Clark Road from an existing 8-inch main in Third Avenue north to a hydrant.
Booster Stations	A booster station located at the southwest corner of Third Avenue and Main Street, and equipped with two, 15 Hp pumps each rated 150 gpm @ 200 feet TDH. Station includes backup power and all other equipment as required for proper operation.
Elevated Storage Tank	A 300,000 gallon elevated storage tank located in City Park. The proposed tank shall be spherical, all welded construction and supported on a single pedestal. The tank shall be 150 feet in height, 40 feet in diameter with a normal operating range of 130 – 145 feet. The interior coating system shall be ANSI/NSF Standard 61 approved or equivalent. The tank will be equipped with a cathodic protection system, and includes a tank level control system with telemetry.
Chemical Feed	A positive displacement chemical feed pump, rated at 24 gpd @ 110 psi to apply a chlorine solution for Well No. 1. Chlorine is 12.5% NaOCL, ANSI/NSF Standard 60 approved and will be applied at a rate of 1.0 mg/l of actual chlorine.
Water Supply Well	Well No. 3, a 200 foot deep well with 170 feet of 8-inch casing and 30 feet of 8-inch, 10 slot screen. The well will be equipped with a 20 Hp submersible pump and motor rated 200 gpm @ 225 feet TDH, set at 160 feet below land surface.
Treatment Facilities	A 5 million gpd water treatment plant located at the north end of Second Avenue. The facility will include 6 low service pumps, 2 rapid mix basins, 4 flocculation/sedimentation basins, 8 dual media filters, 3 million gallon water storage reservoir and 6 high service pumps. Also included are chemical feed pumps and related appurtenances for the addition of alum, fluoride, phosphate and chlorine.

General Project Information – Complete all boxes below.

7. Design engineer's name, engineering firm, address, phone number, and email address:

Jeffrey B. Markstrom, P.E.
ROWE Professional Services Company
P.O. Box 3748
Flint, MI 48502
(810)341-7500 jmarkstrom@rowepsc.com

8. Indicate who will provide project construction inspection:
☐Organization listed in Box 1.
☒Engineering firm listed in Box 7.
☐Other - name, address, and phone number listed below.

9. Is a basis of design attached?
☐YES ☒NO

If no, briefly explain why a basis of design is not needed.

10. Are sealed and signed engineering plans attached?
☒YES ☐NO

If no, briefly explain why engineering plans are not needed.

11. Are sealed and signed construction specifications attached?
☒YES ☐NO

If specifications are not attached, they need to be on file at DEQ.

12. Were Recommended Standards for Water Works, Suggested Practice for Water Works, AWWA guidelines, and the requirements of Act 399 and its administrative rules followed?
☒YES ☐NO

If no, explain which deviations were made and why.

13. Are all coatings, chemical additives and construction materials ANSI/NSF or other adequate 3rd party approved?
☒YES ☐NO

If no, describe what coatings, additives or materials did not meet the applicable standard and why.

14. Are all water system facilities being installed in the public right-of-way or a dedicated utility easement? (For projects not located in the public right-of-way, utility easements must be shown on the plans.)
☒YES ☐NO

If no, explain how access will be obtained.

15. Is the project construction activity within a wetland (as defined by Section 324.30301(d)) of Part 303, 1994 PA 451?
☐YES ☒NO

If yes, a wetland permit must be obtained.

16. Is the project construction activity within a 100-year floodplain (as defined by R 323.1311(e)) of Part 31, 1994 PA 451, administrative rules?
☐YES ☒NO

If yes, a flood plain permit must be obtained.

17. Is the project construction activity within 500 feet of a lake, reservoir, or stream?
☒YES ☐NO

If yes, a Soil and Erosion Control Permit must be obtained or indicate if the owner listed in box 2 of this application is an Authorized Public Agency (Section 10 of Part 91, 1994 PA 451) ☐ Owner is APA.

18. Will the proposed construction activity be part of a project involving the disturbance of five (5) or more acres of land?
☐YES ☒NO
If yes, is this activity regulated by the National Pollutant Discharge Elimination System storm water regulations?
☐YES: NPDES Authorization to discharge storm water from construction activities must be obtained.

☐NO: Describe why activity is not regulated:
Please call 517-241-8993 with questions regarding the applicability of the storm water regulations.

19. Is the project in or adjacent to a site of suspected or known soil or groundwater contamination?
☐YES ☒NO

If yes, attach a copy of a plan acceptable to the DEQ for handling contaminated soils and/or groundwater disturbed during construction. Contact the local DEQ district office for listings of Michigan sites of environmental contamination.

20. IF YOU ARE A CUSTOMER/WHOLESALE/BULK PURCHASER, COMPLETE THE FOLLOWING

1) Name and WSSN of source water supply system (seller) City of Flint

2) Does the water service contract require water producer/seller to review and approve customer/wholesale/bulk purchaser water system construction plans?
☐YES ☒NO

If yes to #2, the producer/seller approval letter must be attached when submitted to DEQ.

21. **Owner's Certification** The owner of the proposed facilities or the owner's authorized representative shall complete the owner's certification. It is anticipated that the owner will either be a governmental agency (city, village, township, county, etc.) or a private owner (individual, company, association, etc.) of a Type I public water supply.

OWNER'S CERTIFICATION

I, Daugherty Johnson (print) (name), acting as the Utilities Administrator (print) (title/position) for City of Flint (print) (entity owning proposed facilities) certify that this project has been reviewed and approved as detailed by the Plans and Specifications submitted under this application, and is in compliance with the requirements of 1976 PA 399, as amended, and its administrative rules.

Signature* 3/20/15 Date 810 766-7135 Phone

*Original signature only, no photocopies will be accepted.

PROJECT BASIS OF DESIGN – FOR WATER MAIN PROJECTS

PROJECT NAME: _____

For this PROJECT the following information must be provided per Act 399 unless waived by the Department. For projects other than water main installation, or if additional space is needed, attach separate sheet(s) with detailed Basis of Design calculations.

A. A general map of the initial and ultimate service areas
☐Included on engineering plans ☐Attached separately

B. Number of service connections served by this permit application _____

C. Total number of service connections ultimately served by entire project _____

D. Residential Equivalent Units (REUs) served by this permit application _____

E. Total Residential Equivalent Units (REUs) ultimately served by entire project _____

F. Water flow rates for proposed project based on REUs listed in "D' and "E" above

1. Initial design average day flow (mgd) _____
2. Initial design maximum day flow (mgd) _____
3. Total design average day flow (mgd) _____
4. Total design maximum day flow (mgd) _____
5. Required fire flows: (1) _____ gpm for _____ hours

G. Actual flows and pressures of existing system at the connection point(s) (2)

_____ gpm at _____ psi
_____ gpm at _____ psi
_____ gpm at _____ psi
_____ gpm at _____ psi

H. Estimated minimum flows and pressures within the proposed water main system (3) _____ gpm at _____ psi

(1) Every water system must decide what levels of fire fighting flows they wish to provide. Fire flow should be appropriate for the area (residential, commercial, industrial) being served by the project. Typical fire flow rates can be obtained from the water supply, local fire dept., ISO or AWWA. The water system must then be designed to be able to provide the required fire flows while maintaining at least 20 psi in all portions of the distribution system.

(2) Flows and pressures at the connection points must be given to determine if the existing water main(s) are able to deliver water to the new service area. These numbers can be obtained from a properly modeled and calibrated distribution system hydraulic analysis or hydrant flow tests performed in the field. If more than one connection is proposed, list as needed.

(3) List what the estimated minimum flows can be expected in the proposed water mains based on estimated water demands, head losses, elevation changes and other factors that may affect flows, such as dead end mains.

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

TO: Water Supply Superintendent or Operator-in-Charge

FROM: Adam Rosenthal, Office of Drinking Water and Municipal Assistance, Lansing District Office

DATE: May 6, 2015

SUBJECT: New Lansing District e-mail address for all submittals
2014 Consumer Confidence Report Reminder
Updated Lansing District Responsibilities

New Lansing District e-mail address for all submittals:
The Lansing District Office has created a new e-mail account to be used for all future submittals: **DEQ-DWMA-Lansing@michigan.gov**

Please forward future electronic submittals to the above e-mail address. This includes monthly operating reports, laboratory reports, reporting forms and siting plans. No further submittals will be accepted into an individual's e-mail inbox after May 31, 2015. Please make sure to inform any laboratory or consultant who has agreed to submit documents on your behalf of this change. Mailed hard copies and faxed documents will still be accepted.

2014 Consumer Confidence Report Reminder:
Your annual Consumer Confidence Report (CCR) is due to be delivered by July 1st.

You may use any combination of mail, door-to-door, or electronic methods to deliver to bill paying customers. This means you may mail and/or e-mail a message that the CCR is available on the internet or attached to the e-mail. If using the internet, the CCR must be on the internet when customers receive the message and the internet address displayed in the message must lead directly to the entire CCR. The message should tell customers how to request a paper copy. If you normally publish a non-English language CCR, then the notification of CCR availability should also be in that language.

Refer to last year's report and your most recent sample results when preparing this year's report. For more information on preparing your CCR, visit http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Consumer Confidence Report Rule.

In addition to delivering your CCR to your consumers by July 1st, you are required to send a copy to the Department of Environmental Quality and to your local health department. Also send us documentation certifying how you delivered the CCR. Certification of delivery is due to us by October 1st, but we encourage you to send it to us when you deliver the CCR by July 1st. You can download the *CCR Certificate of Distribution Form* from the web page noted above. **If you e-delivered the CCR, send**

us a sample copy of the notification of CCR availability. For example, you may have put the notification on a water bill.

Did anybody monitor UCMR in 2014? Did the United States Environmental Protection Agency (U.S. EPA) direct you to monitor for unregulated contaminants during 2014? Report the average and range of each contaminant detected. Also, provide an explanation of this required monitoring, such as, "Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. We monitored for these contaminants and results of monitoring are available on request."

Please contact us with your questions. We would like to be available to answer all your questions as you draft your CCR, but we have found that our office is inundated with questions as the deadline nears. You might be best served if you contact us before the end of May.

Failure to deliver the CCR by July 1st is a reporting violation and will result in an administrative fine. Contact our office for more information.

Updated Lansing District Responsibilities:
Please make note of the following updates to the Lansing staff and their responsible areas:

Michael Prysby, P.E., is responsible for District 11, which includes Genesee County. Mike can be reached on his cell phone at 517-290-8817.

Bethel Skinker, P.E., is responsible for District 12, which includes the counties of Eaton, Ingham, and Clinton (minus manufactured housing). Bethel can be reached on her cell phone at 517-290-0686.

Mark Joseph, P.E., is responsible for District 13, which includes Livingston County and the City of Ann Arbor in Washtenaw County. Mark can be reached on his cell phone at 517-290-0170.

Kurt Swendsen, Engineer, is responsible for District 14, which includes the counties of Gratiot, Lapeer, Shiawassee, and all manufactured housing community supplies in Clinton County. Kurt can be reached at 517-525-1487.

All Livingston County water supplies are again regulated through the Lansing District Office.

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

DAN WYANT
DIRECTOR

May 11, 2015

Mr. Howard Kroft, Director of Public Works
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

WSSN: 02310

Dear Mr. Kroft:

SUBJECT: Flint Cross Connection Control Program

This letter confirms my site visit on April 29, 2015, with Mr. Glen Thomas, Utilities/Cross Connection Division Inspector for the city of Flint. Mr. Stephen Busch from our office was also present. The purpose of the visit, in part, was to discuss the city's Cross Connection Control Program (CCCP).

The city of Flint has made significant progress in recent years regarding the implementation of the city's approved CCCP. This effort has included identification of accounts, inspection and re-inspection of accounts at the approved frequencies, and ensuring the testing of backflow prevention assemblies in accordance with approved frequencies. However, the city's most recent report of annual CCCP activities for 2014 indicates a significant decrease in these activities below minimum requirements, and this deficiency must be address.

Our office fully recognizes the recent staffing loss of the city's previous plumbing inspector and the importance of these plumbing inspection services in providing public health protection, but these activities should not be borne at the cost of the city's CCCP and the protections it provides. Given the bacterial detections that occurred in the city's water distribution system in August and September 2014, along with customer complaints regarding aesthetic water quality, the need for protection through cross connection control are very evident.

We also realize that implementing a CCCP of for a community water system of this magnitude requires a significant commitment of time and personnel. We encourage the city to review CCCP staffing needs and authorize the workforce necessary to comply with the city's approved CCCP requirements.

Should you require further information, please contact me at the telephone number below; via e-mail at prysbym@michigan.gov; or Department of Environmental Quality, P.O. Box 30242, Lansing, Michigan 48909.

Sincerely,

Michael F. Prysby, P.E.
District Engineer
Office of Drinking Water and
Municipal Assistance
Lansing District Office
(517) 290-8817

mfp/jlr

cc: Mr. Glen Thomas, City of Flint
Mr. Stephen Busch, P.E.

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

February 27, 2015

Mr. Gerald Ambrose, Emergency Manager
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

Dear Mr. Early:

SUBJECT: S2 Grant Program
City of Flint
S2 Grant Project No. 9204-01

We are pleased to inform you that your final disbursement request (No. 7), in the amount of $66,650.62 was paid on February 13, 2014. The project plan was approved on December 13, 2013. The plans and specifications were approved on November 19, 2014. The State Revolving Fund (SRF) loan for Project No. 5439-01 was verified as self-funded via a construction start date of December 3, 2015. The subject S2 Grant project is now administratively complete.

Based on available grant funds, the final S2 Grant amount and local match are $717,531.49 and $79,725.51, respectively. The total final project cost is $797,257. For your files, I am enclosing the S2 Final Project Cost Summary from our database, which reflects and confirms the amounts on your final disbursement request.

Please note that the Michigan Financial Authority (MFA) or the Michigan Department of Environmental Quality (DEQ) may conduct an audit or other review of your project to determine whether Strategic Water Quality Initiatives Fund program requirements have been met. You will be notified in advance of any on-site review. Please retain all project records, whether in written or computerized form, for three years from the date of this letter. If requested, you must provide such records to the MFA, the DEQ, or their agents for inspection.

We are pleased that we could assist you in your effort to protect and preserve the water quality of our state.

If you have any questions, please call the project manager, Mr. Kurt Swendsen at 517-284-5418, or you may contact us by mail at DEQ, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Sonya T. Butler

Sonya T. Butler, Chief
Revolving Loan Section
Office of Drinking Water and Municipal Assistance
517-284-5433

Attachment

cc: Mr. Daughtery Johnson, City of Flint
Mr. Jeff Markstrom, Rowe, Inc., Flint
Ms. Nichole Dorr, MFA
Mr. Chuck Bennett, DEQ-Water Resources Division, Lansing District Office
Ms. Debbie Martinson, DEQ

S2 Final Project Cost Summary

Project Number 9204-01

Grantee City of Flint **Location** City of Flint

Budget Item	Requested Costs	Approved Costs	Allowable %	Approved Final Costs
1 Planning Costs	$797,257.21	$797,257.21	100.0000%	$797,257.21
		Eligible Cost Subtotal		**$797,257.21**
		Less 10% Local Match		**$79,725.72**
		Total Approved Project Cost		**$717,531.49**

Line Items Final Planning Costs

Project Number 9204-01

Item	Desc. or Invoice Number	Requested	Ineligible	Approved	Reason	Cost Type
1	Rowe invoices 67422 - 69146	$65,568.17	$0.00	$65,568.17	DR1. 5 invoices	Incurred
2	invoice 0069223	$249,360.00	$0.00	$249,360.00	DR2	Incurred
3	invoice 70243	$49,906.40	$0.00	$49,906.40	DR3	Incurred
4	invoices 70514, 70686	$83,150.90	$0.00	$83,150.90	DR4	Incurred
5	invoices 70863, 71040, 71215	$153,141.87	$0.00	$153,141.87	DR5	Incurred
6	invoices 71393, 71545, 71719	$122,073.63	$0.00	$122,073.63	DR6	Incurred
7	invoices 72977, 72570, 72787	$74,056.24	$0.00	$74,056.24	DR7	Incurred
	Total:	$797,257.21	$0.00	$797,257.21		

City of Flint

Utilities Division

Dayne Walling
Mayor

Gerald Ambrose
Emergency Manager

February 9, 2015

Mr. Kurt Swendsen
Michigan Department of Environmental Quality
Constitution Hall
525 W. Allegan
Lansing, MI 48933

Re: City of Flint SRF Project Construction Phase
Project Status Report

Dear Mr. Swendsen:

The City of Flint is writing this letter to inform the MDEQ that the construction phase of the SRF project is underway. As you are aware, the City of Flint will be self-funding the construction project and will be performing most of the construction activities with our own utility crews. The following is a summary of the project as we stand today:

- Construction activities began on December 3, 2014
- To date our crews have been concentrating on rehabilitation of the sanitary manholes along Gilkey Creek, Swartz Creek, Carman Creek and Thread Creek which are tributaries of the Flint River. We have signed a contract with Liquiforce to perform the sewer lining items that the City of Flint staff is not able to self-perform.
- The City of Flint has allocated 2 crews consisting of 8 staff. The project is being managed by Rob Smith, our Sewer Systems Supervisor.
- Based on our understanding of the project, we anticipate construction activities to continue through the 2015 construction season with a completion date of November 2015.
- We have kept our consultant, ROWE Professional Services Company, apprised of our progress.

We trust that this letter addresses the concerns of the MDEQ relating to the progress of the SRF construction phase. If you have any questions or require additional information, please contact Daugherty Johnson, Utilities Administrator at djohnson@cityofflint.com.

Sincerely,

Jerry Ambrose
Emergency Manager

Cc: Daugherty Johnson, City of Flint
Jeff Markstrom, ROWE

Swendsen, Kurt (DEQ)

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Thursday, February 19, 2015 11:21 AM
To: Swendsen, Kurt (DEQ)
Cc: Robert Smith; Jeff Markstrom
Subject: City of Flint SRF project progress
Attachments: SRF progress letter Feb 2015.pdf

Hell Kurt. I have attached a letter detailing our progress on our self funded SRF project. If you have any questions please call me at (810) 577-8906 or email. We will also send a hard copy of the letter.

Thank you
Daugherty Johnson
Utilities Administrator
City of Flint

From: Busch, Stephen (DEQ)
Sent: Friday, May 01, 2015 12:17 PM
To: Prysby, Mike (DEQ);gthomas@cityofflint.com
Subject: RE: Premise plumning
Attachments: Final Genesee supplemental questionnaire 2-23-15.docx

Glen,

The attached questionnaire that would be utilized by the Local Health Department and Department of Health and Human Services provides additional detail of what to be on the lookout for (See Questions 12 and 13). As we indicated almost every service connection could potentially have some element associated with what is listed in this questionnaire, but we are just looking for a rough list of those with more non-typical appurtenances such as spas, grocery stores with spray/mist system, garden/nurseries with mist irrigation, etc., and those that Mike provided. Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Prysby, Mike (DEQ)
Sent: Friday, May 01, 2015 9:56 AM
To: gthomas@cityofflint.com
Cc: Busch, Stephen (DEQ)
Subject: Premise plumning

Glen,

Based upon our discussion during our April 29th, 2015 site visit, approximately 40-45 commercial/industrial customers were identified as a potential candidate for needing a premise plumbing Water Safety Plan (WSP). Attached is a list of mechanical components within building premise plumbing to assist you in confirming this and/or identifying additional customers that could serve as WSP candidates. Please send us your completed list at your earliest convenience. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

MDSS ID _____

Legionellosis Questionnaire
Genesee County, 2014-2015

Interviewer Identification

Date of Interview: _____ Interviewer's Name: _____
Health Dept.: _____ Phone Number: _____ E-mail: _____

What was the patient's outcome? ☐ *RECOVERED* ☐ *STILL ILL* ☐ *DIED* ☐ *UNK*

Patient Contact Information

Name:_____ Age:_____ Sex: ☐M ☐F
Street address: _____ City: _____
State:_____ Zip: _____ County:_____
Daytime Phone: _____ Evening Phone: _____

Surrogate Contact Information <*List surrogate contact information if patient is too unwell or has died*>
Name:_____
Daytime Phone: _____Evening Phone: _____
Relationship to Patient: _____

Hello, my name is _____and I'm calling from _____(health department). We are investigating a cluster of respiratory illnesses in Genesee County. At this point, the source of these illnesses is still under investigation. We are hoping this interview will provide further information and answers about the illnesses. I'd like to ask you a few questions about your home and your exposures during the 2 weeks before you got sick. You do not have to answer any of the questions, but any assistance you can provide is appreciated. Do you have about 30 minutes to talk? If not now, when would be a good time for me to call back? _____

<If the case is from more than 1 month prior, the following text may be used: >
It might be helpful for you to collect documents such as a calendar, receipts, credit card or bank statements to jog your memory about your activities and where you were in the 2 weeks prior to getting sick. The only information we would ask you to share from these are dates and locations. Would you like me to call you back after you have time to collect these materials? When would be a convenient day and time for me to call you back? _____

I have that your first symptom started on *<insert onset date>* _____. Is this correct?
☐Yes ☐No ☐ Not sure

If no, what was the first date you started feeling sick? ____/_____/_____

List dates of exposure period: from ____/____/____ to ____/____/____ <The exposure period includes the 2 weeks before the date of illness onset>

Illness Information

1.) During your illness, did you have any of the following symptoms?

	Check one:		
	YES	NO	UNK
Diagnosis of pneumonia			
Fever If yes, highest temp:_____			
Chills			
Cough			
Nausea			
Vomiting			
Diarrhea			
Aches or muscle pains			
Chest pain			
Shortness of breath			
Sore throat			
Headaches			
Other symptoms (*specify*):			

Exposure Information

2.) How long have you lived at your current residence? _____

<If they have moved since the listed exposure period, indicate that you are asking about the house they lived in prior to becoming sick>

a.) If you moved after the exposure period/illness, what was your previous residence address? _____

3.) Where did you get your tap (drinking and other household use) water from between ___/___/___ and ___/___/___ ? *<Exposure period from above>*

- ☐ 1. City of Flint Water
- ☐ 2. City of Flint Township Water
- ☐ 3. Other municipal water system
- ☐ 4. Private well
- ☐ 5. Unknown
- ☐ 6. Other _____

4.) During the last year, has the water pressure at your residence changed? ☐ Yes ☐ No ☐ Not Sure

a.) If yes, did the water pressure: ☐ Increase ☐ Decrease

b). If yes, when did the water pressure change occur? _____

5.) During the last year, has the water quality (appearance, taste, smell) at your residence changed?

☐Yes ☐No ☐Not Sure

a.) If yes, please describe the change in the water quality:_____

_____

b). If yes, when did the water quality change occur? _____

6.) Prior to your illness, did you make any recent plumbing changes or repairs at your residence?

☐Yes ☐No ☐Not sure

a.) If yes, please describe the changes/repairs and give the dates the work was done.

_____

_____

7.) Prior to your illness, were there any water main breaks or other water line issues that affected the water at your residence, including boil water advisories? ☐Yes ☐No ☐Not sure

a.) If yes, please describe the water main/line issues or boil water advisories and give the dates they occurred.

_____

_____

I'd like to ask you some questions about what you did during the 2 weeks **before** you got sick.

The time period I'm asking about is between ___/___/___ and ___/___/___.<*Exposure period*>

During this 2 week period, did you:

8.) Work or volunteer, either full or part time? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table:

Job description	Company	Location	Any exposure to misty water?

9.) Spend any time in a hospital, doctor's office, clinic, or dentist office as a patient, visitor, employee, or volunteer? ☐Yes ☐No ☐Not sure

a.) If yes, check all that apply:

Exposure	Date(s)	Reason for Visit	Name & City of Hospital/ Office/ Clinic	Name of Doctor
Inpatient ☐	Admission_____ Discharge_____			
Outpatient ☐				
Visitor ☐				
Employee ☐				
Volunteer ☐				

10.) Visit, reside, or work in a long term care facility, nursing home, assisted living facility, or senior living facility? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table:

Exposure	Date(s)	Name & City of Facility
Resident ☐		
Visitor ☐		
Employee ☐		

11.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you spend any nights away from home (excluding healthcare settings)? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table: *<prompts: hotel, campground, cabin, cruise, second home, with family, etc.>*

Accommodation Type/Name	Address Street, City, State	Floor/Room No.	Dates of Stay	
			Arrival	Departure

12.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you visit any of the following community venues?

	Check one:					
Venue	YES	NO	UNK	Date(s)	Name of Venue	Address
Hotel (*without* staying overnight – e.g. dinner, wedding)						
Auditorium						
Barbershop or Hair salon						
Car wash						
Casino						
Church or Place of worship						
Gym or Work out facility						
Grocery store						
Home improvement store						
Spa or Nail salon						
Mall or Department store						
Movie theater						
Other (*specify*)						

13.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you have exposure to any of the following water sources, either ***at home*** or while ***away from home***?

	Check one:				
Exposures ***at home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Steam room or wet sauna					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Respiratory therapy machine (e.g. nebulizer, CPAP, BiPAP, etc.)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Other (*specify*)					

Exposures ***away from home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower at gym, work, other location					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Pool/splash pad/waterpark					
Recreational or cooling misters					
Steam room or wet sauna					
Decorative fountain					
Outdoor watering hose or sprinkler					
Beach, lake, pond, river, creek, etc.					
Other (*specify*)					

Medical History

Now I'm going to ask a few questions about your medical history and health behaviors.

14.) Have you ever been told by a healthcare provider that you had any of the following conditions:

	Check one:			
Condition	YES	NO	UNK	Comments
Chronic kidney disease				
Weakened immune system (due to cancer, chemotherapy , radiation therapy, immunosuppressive meds, HIV, organ transplant, etc.)				
Diabetes				
Chronic lung disease (COPD, emphysema)				
Asthma or chronic bronchitis				
Heart disease or congestive heart failure				
Liver disease				
Other conditions (*specify*)				

15.) Health behaviors:

	Check one:			
	YES	NO	Quantity per day (packs or drinks)	Duration (years)
Are you currently a smoker?				
Are you a former smoker?				
Do you drink alcohol?				

16.) Do you know anyone else with similar symptoms? ☐ Yes ☐ No ☐ Not sure

a.) If yes, complete the following table:

Name	Phone	State of Residence	Details of Shared Exposure

Additional Comments _____

_____

_____

_____

_____

Thank you so much for taking the time to answer these questions. Do you have any questions that I can help answer? If you have any questions or remember any further details later, please contact the _____ (health department) at phone: _____.

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 17, 2015 2:02 PM
To: Howard Croft (hcroft@cityofflint.com);Brent Wright (bwright@cityofflint.com);mglasgow@cityofflint.com;Daugherty Johnson (djohnson@cityofflint.com)
Cc: Gerald Ambrose (gambrose@cityofflint.com);nhenderson@cityofflint.com;prysbym@michigan.gov
Subject: Water Quality Optimization Strategy

Howard,

As Mike Prysby and I mentioned during our phone call earlier today, the City should be taking action to optimize water quality in the City's distribution system which will in turn provide the City's water customers with water quality that helps limit the potential for legionella occurrence in premise plumbing. It is recognized that contraction of Legionnaires' Disease is not from ingestion of potable water and not regulated under Safe Drinking Water Act requirements. Further, there is currently no direct evidence of legionella in the City's public water system. However, actions by the City of Flint water system can help minimize the potential for an outbreak in customer plumbing systems.

These actions include the following:

- Water main pigging and flushing to remove biofilm, tuberculation, and sediment throughout the distribution system. Failure to remove such material will limit the effectiveness of any disinfectant. Pigging is the preferred process and equipment can be obtained at minimal cost. As the growth range for legionella starts at 68 degrees F, conducting this work as soon as possible in the spring and early summer with cooler temperatures would help reduce the potential for formation under warmer water conditions.

- Maintain pH levels of 7.2-7.8 in finished water and distribution system when possible to maximize the disinfection and oxidation potential of the hypochlorous acid residual (versus the less potent hypochlorite ion). Any optimized corrosion control plan practices regarding pH levels must be taken into consideration.

- Maintain a minimum free chlorine residual of 0.5 mg/L throughout the distribution system when possible. Continuous residual at this level has been shown to be effective in control of legionella. (This will need to be balanced with requirements to limit TTHM formation and comply with the TTHM standard.)

- Continuous operation and optimization of the ozone treatment equipment to treat raw source water. Ozone is highly effective in the destruction of legionella bacteria.

- Conduct routine monitoring for legionella bacteria at the water treatment plant tap and at locations in the distribution system. Note: sample locations must take water directly off the main and not be from premise plumbing systems. Distribution locations could include storage tank inlets or pumping stations. Monitoring at the WTP plant tap would demonstrate removal of any legionella present in raw source water. A private laboratory that specializes in water sample analysis for legionella would need to be used.

- Optimize water treatment plant operation for pathogen reduction under surface water treatment rule requirements. Optimizing the removal for similar pathogens can help reduce the potential for legionella.

A conference call with City staff would probably be best to facilitate further discussions of these actions in more detail. Mike and I can make ourselves available this week to discuss and answer any questions.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Prysby, Mike (DEQ)
Sent: Friday, February 20, 2015 8:41 AM
To: 'bwright@cityofflint.com'
Subject: call

Brent,

Are we having a conference call today? I am available, give me a time for the call and I will make my-self available.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, April 03, 2015 11:55 AM
To: Michael Glasgow;'bwright@cityofflint.com'
Subject: Flint MORs

Mike, Brent

I was looking at Flint's MORs and I just noticed that ozone treatment parameters (ozone dosage and residuals) are not included. Ozone treatment parameters need to be included in the MOR. Please include this in future MORs. Also, if you can resurrect the ozone treatment parameters from previous months of operation (since going to the Flint River)……we would like that information to include in the previous MORs. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 1:48 PM
To: emurphy@cityofflint.com
Cc: 'bwright@cityofflint.com'
Subject: Flint River Source Water Assessment
Attachments: Flint River Source Water Assess..doc

Elizabeth,

Attached is a copy of the Flint River Source Water Assessment report for your information. Water treatment plant staff should have a copy of this report, if not, please provide them with a copy.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Source Water Assessment Report for the City of Flint Water Supply Flint River Emergency Intake February 2004



City of Flint Water Treatment Plant, Flint, Michigan

Prepared for:

City of Flint Water Supply; WSSN 2310

Prepared by:

U.S. Geological Survey, Water Resources Division, Michigan District
Michigan Department of Environmental Quality, Water Division
City of Flint Water Utilities Department

Michigan Source Water Assessment Report 54

Executive Summary

The purpose of the Source Water Assessment is to analyze the sensitivity and determine susceptibility of a community's source of drinking water to potential sources of contamination.

Sensitivity is determined from the natural setting of the source water (raw water to the water treatment plant), and indicates natural protection afforded the source water. Using procedures established in the Great Lakes Protocol, Michigan Source Water Assessment Program, the ***emergency*** *intake for the Flint Water Treatment Plant has a very high degree of sensitivity to potential contaminants. When the effects of agricultural and urban runoff in the Flint River watershed are considered, the Flint intake is categorized as very highly sensitive.*

Susceptibility identifies factors within the community's source water area that may pose a risk to the water supply. The susceptibility determination provides information with respect to listed facilities and land areas within the source water area that should be given greater priority and oversight in implementing a source water protection program. The source water area for the Flint ***emergency*** *intake includes 96 potential contaminant sources, 16 listed potential contaminant sources within the susceptible area, plus urban and agricultural runoff from the Flint River watershed into the Flint River. The potential contaminant sources, in combination with the very highly sensitive intake, indicate that the Flint* ***emergency*** *intake source water is very highly susceptible to potential contamination.*

The Flint ***emergency*** *intake source water is categorized as very highly susceptible, given land uses and potential contaminant sources within the source water area. However, it is noted that when operating, the City of Flint Water Treatment Plant has effectively treated this source water to meet drinking water standards. The City of Flint has instituted pollution prevention programs, but should be cognizant of additional potential threats to its source of drinking water that are identified in this report. This report explains the background and basis for these determinations.*

Using this Assessment

Clean, safe drinking water is fundamental to the viability of any community. Protecting the drinking water source is a wise and relatively inexpensive investment in your community's future. The overall intent of this assessment is to provide background information for your community to use in developing a local source water protection program. The assessment benefits your community by providing the following:

- ***A basis for focusing limited resources within the community to protect the drinking water source(s).***

  The assessment provides your community with information regarding activities within the **source water area (SWA)** that directly affect your water supply. It is within this SWA that a spill or improper use of **potential contaminants** may cause these contaminants to migrate toward the water **intake**. By examining where the source waters are most susceptible to contaminants, and where potential contaminants are located, the assessment clearly illustrates the potential risks that should be addressed.

- ***A basis for informed decision-making regarding land use within the community.***

  The assessment provides your community with a significant amount of information regarding where your drinking water comes from (the source) and what the risks are to the quality of that source. Knowing where the resource is allows your community planning authorities to make informed decisions regarding proposed land uses within the SWA that are compatible with both your drinking water resource and the vision of growth embraced by your community.

- ***·A basis for dealing with future regulations.***

  The assessment has been designed to functionally meet proposed requirements for surface-water supplies. Information needed to address regulatory needs and requirements has been collected and made available to your community through this report.

This source water assessment also provides the basis for a locally developed, voluntary source water protection program. Communities interested in voluntarily developing source water protection programs should contact the Michigan Department of Environmental Quality (MDEQ) or visit the Department web page at http://www.deq.state.mi.us.

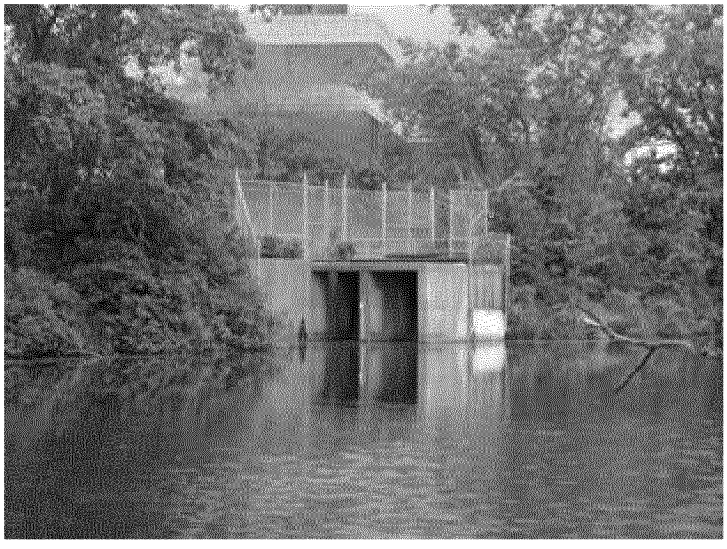
Introduction

In 1996, Congress amended the **Safe Drinking Water Act** and provided resources for state agencies to conduct source water assessments by identifying SWAs, analyzing the **sensitivity** of the source to natural conditions, conducting contaminant source inventories, and determining the **susceptibility** of the source to potential contamination. Delineations, sensitivity analyses, contaminant inventories, and susceptibility determinations comprise a "source water assessment." Assessments will be completed for every public water supply source in Michigan. To support this effort, the MDEQ Water Division established a partnership with the U.S. Geological Survey (USGS) to develop a method for conducting source water assessments for surface water supplies (Sweat and others, 2000; Sweat and others, 2001).

The requirements for public water supplies in Michigan to meet United States Environmental Protection Agency (USEPA) **maximum contaminant levels** (MCLs) provide some degree of assurance of safe drinking water; however, all systems are vulnerable to potential contamination. One of the best ways to ensure safe drinking water is to develop a local program designed to protect the source of drinking water against potential contamination. Not only does this add a margin of safety, but it also raises the awareness of consumers and/or the community of the risks of drinking water contamination. It is expected that source water assessment results will provide a basis for developing a source water protection program.

Background

Flint is located in Genesee County, about 55 miles northwest of Detroit, Michigan (fig. 1). The city of Flint water supply serves a population of 125,000. In 1967, the city connected to the Detroit Water and Sewage Department (DWSD) water supply and the Flint Water Treatment Plant (WTP) was placed on stand-by operation. The city is required by the MDEQ to maintain this treatment facility for reliabilty since the city obtains treated water through a single pipeline from the DWSD Lake Huron WTP which is subject to interruption of service. The present intake at the Flint WTP was constructed in 1948 and consists of a concrete box structure on the edge of the Flint River. The intake structure has a bottom elevation of 700.00 and connects through a 72-inch concrete pipe to the low service pump station. Low service pumps lift the river water through the WTP processes of conventional treatment and lime-soda softening .



Flint WTP Emergency, Flint River Intake Structure (Viewed from downstream)

Treatment at the plant includes the addition ferric chloride as a coagulant, lime and soda ash for softening, chlorine for disinfection, and fluoride addition for dental health.

Water treatment plants are periodically inspected to identify construction, maintenance, operational or source defects that could make them vulnerable to contamination, particularly from contaminants that are microbial in nature, such as fecal coliforms. Water suppliers are provided a sanitary survey report that notes deficiencies in the system, and the State may direct the system to make necessary corrections. The sanitary survey is an important part of a safe drinking water program.

Climate

The Flint water supply is located in the central Lower Peninsula hydrologic province (Rheaume, 1991), in the Flint River watershed (USGS, 1974, 1982). The region experiences temperate summers with moderate winters. The Flint Bishop International Airport Weather Bureau station reports that the average annual precipitation for the climatic years 1887-2001 was 30.28 inches and the average from the past 5 years is 31.42 inches (NOAA, 2001), with about 13 percent of that as snowfall between November and March. Annual average runoff for the Flint SWA, extrapolated from Miller and Twenter (1986, fig. 1) is 9 to 10 inches.

Source Water Area Geology and Hydrology

The study area for evaluating the extent of the Flint emergency intake SWA includes the upper reaches of the Flint River watershed (fig. 1). Flint is located roughly in the middle of the Flint River watershed. The SWA consists of lacustrine clays and silts; end moraines of coarse- and medium-textured till; fine-, medium-, and coarse-textured glacial tills ; and postglacial alluvium. The SWA is underlain by Bayport Limestone, Marshall Sandstone and mixed shales, sandstones, and limetsones of the Saginaw and Michigan Formations (Martin, 1955; Milstein, 1987). Soils underlying the Flint SWA are primarily associations of the Blount, Boyer, Brookston, Capac, Ceresco, Celina, Chelsea, Cohoctah, Conover, Del Ray, Kibbie, Lapeer, Lenawee, McBride, Metea, Miami, Montcalm, Sloan, Spinks series (U.S. Department of Agriculture, 1961; BASINS, 1998; MIRIS, 2000). They include loams, loamy sands, fine sandy loams, silty clay and muck.



Flint River – Source Water for City of Flint WTP

Soil permeability is based on the calculated time of travel, in inches per hour (in/hr), for water to move vertically through a saturated soil zone. Soil thickness and permeability values are available in soil survey reports published by the National Cooperative Soil Survey and U.S. Department of Agriculture (1982, 1992, 1993, also 2 county reprints in press). Permeability ranges from less than 0.06 in/hr, rated as very slow, to more than 20 in/hr, rated as very rapid.

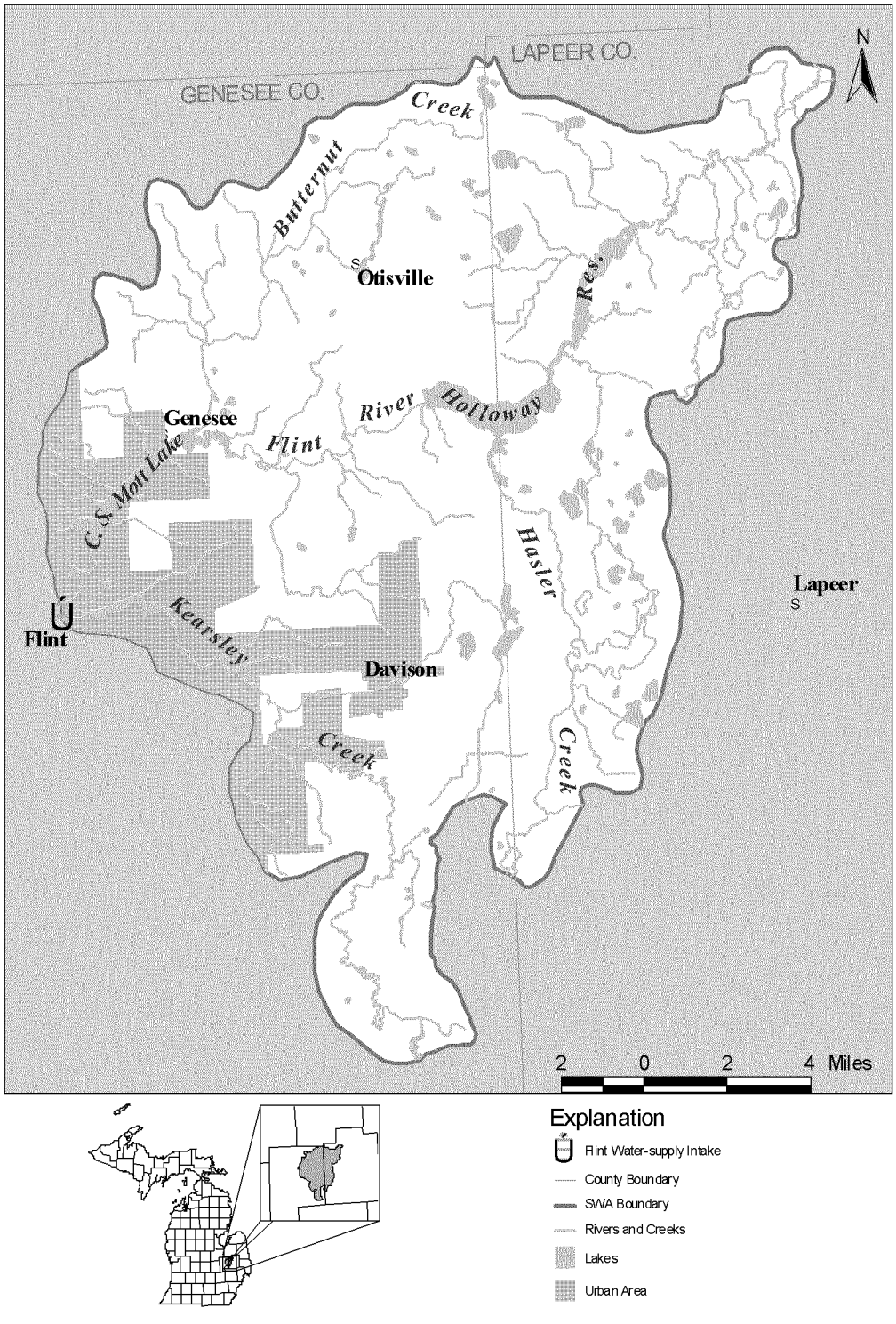
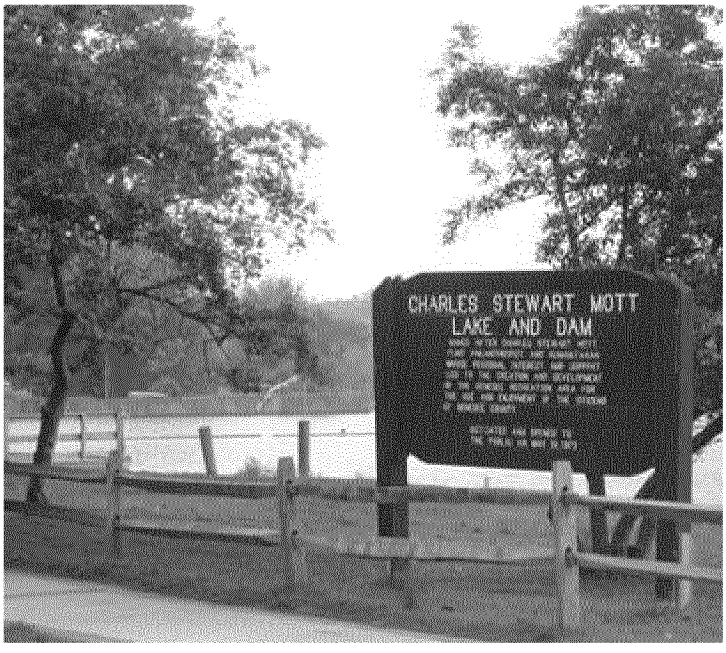


Figure 1. Source-water area (SWA) for the evaluation of the Flint emergency intake, Flint, MI.



Mott Lake and Dam on Flint River upstream of Flint WTP

Very slowly permeable soils significantly reduce the movement of water through the soil zone and, as a result, allow greater time for natural degradation of contaminants. However, such soils also provide for rapid overland transport of contaminants directly to receiving waters, which in turn may affect the water supply intake. Erosion and transport of soils by surface waters can cause an increase in turbidity. In contrast, very rapidly permeable soils allow for rapid infiltration and passage through the soil zone from the surface. Such soils potentially allow rapid transport of contaminants with minimal contact-time available for contaminant breakdown.

Mean, area-weighted, depth-integrated permeabilities for the Flint SWA range from 0.6 to as much as 7.8 in/hr. The mean permeability is 3.1in/hr (Schneider and Erickson, undated, series of 5 maps; BASINS, 1998; MIRIS, 2000). Soil permeability ranges from moderately slow in the northeastern portion of the SWA to moderate over the eastern portion of the SWA to moderately rapid throughout the central and western portions of the SWA, and rapid around the Flint River (fig. 2; U.S. Department of Agriculture, 1961; BASINS, 1998; MIRIS, 2000). Areas adjacent to the Flint River are underlain by highly sensitive drift lithologies, whereas the remainder of the SWA is underlain by least sensitive drift lithology (Lusch and others, 1992).



Kearsley Lake and Dam on Kearsley Creek Upstream of Discharge to Flint River and Flint WTP Emergency Intake

The Flint SWA contains an area of about 237 square miles (mi2). There are is one operable gage within the Flint SWA and a Flint River gage which operates approximately 9 miles downstream from the Flint Emergency Intake. Between 1932 and 2002 discharge has been recorded at this station by the USGS (Blumer and others, 2002). Annual mean discharge at the Flint River at Flint gauging station was 339 cubic feet per second (cfs) between 1932 and 2001, and ranged from 153 to 1258 cfs. Velocity measured at this stream gage was used to estimate the distance in which contaminants could travel within 24 hours, or the 24-hour time-of-travel (TOT) for this area on the Flint River. The distance calculated for the 24-hour TOT was approximately 27 miles.

Soil Permeability for the Flint Source-water Area, Flint, MI

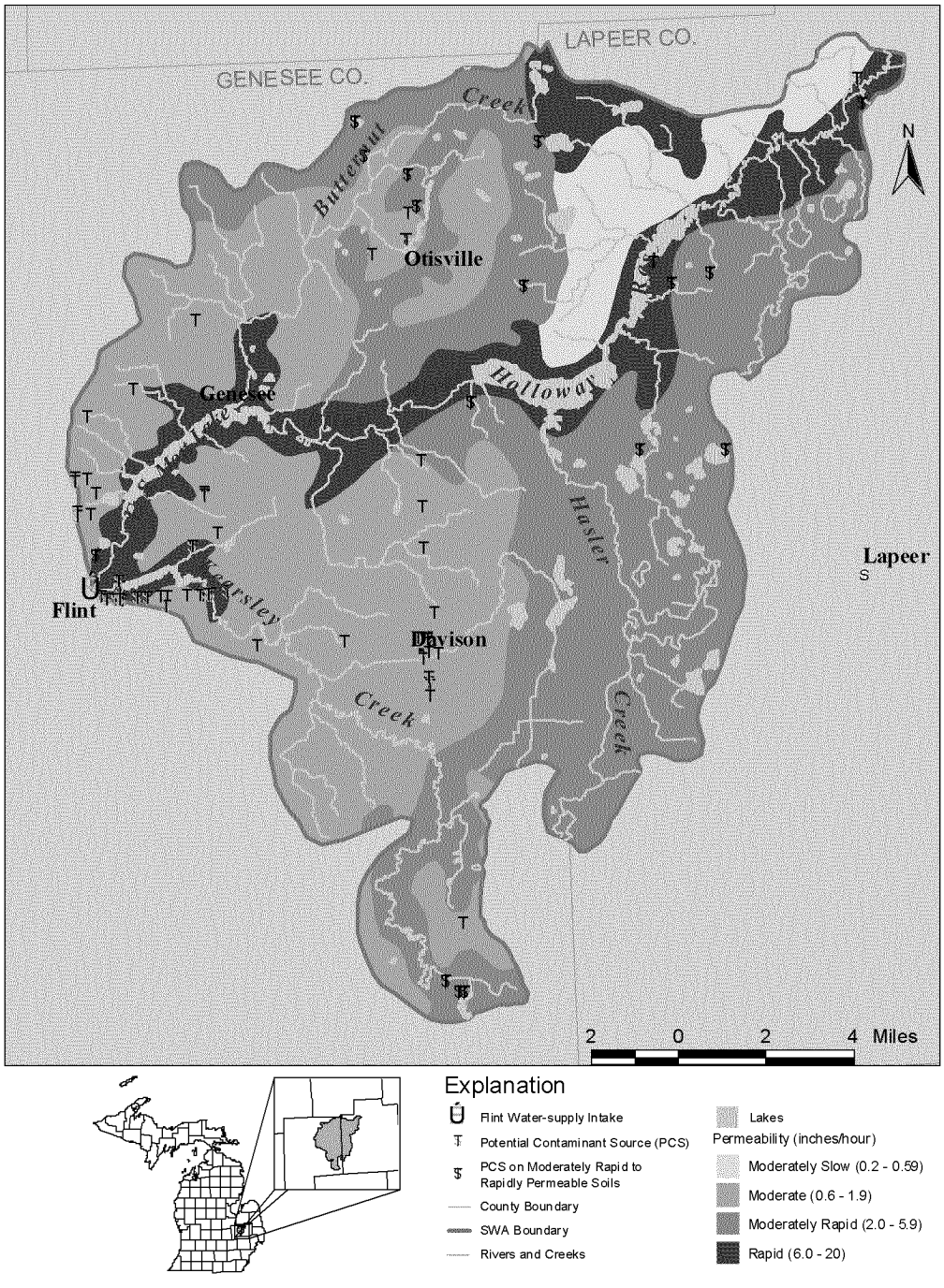


Figure 2. Soil permeability for the Flint emergency water-supply intake SWA. Flint, MI.

History of Raw Water Quality at the Source

Public water supplies are required to routinely monitor raw water quality for selected parameters to optimize treatment, and to monitor treated water quality for a list of contaminants that is determined by MDEQ and the Safe Drinking Water Act. A detection of any contaminant may indicate that a pathway exists for contaminants to reach the intake. It is important to realize that the results from a given sample only provide information regarding the water quality at the time the sample was collected. Water quality can change with time for a number of reasons. The fact that a water sample does not contain contaminants is no guarantee that contamination will not occur in the future. Conversely, the detection of a contaminant in the past does not indicate that it will occur in the future.

The Flint WTP records for the last 3 years of routine operation, 1965-1967 show that water use fluctuated between 34.4 and 46.5 million gallons per day (MGD), with an average daily use of 38.5 MGD. Raw water quality reported for these three years ranged from 5 to 183 nephelometric turbidity units (NTU) for turbidity, 203 to 375 mg/l total hardness as CaCO3, 116 to 235 mg/l alkalinity as CaCO3, 16 to 46 mg/l chlorides and 8.2 to 8.5 units for pH. Precipitation events were noted to increase turbidity and lower hardness. An analysis of flow duration for the Flint River and source water chemistry would probably indicate that there may be an indirect correlation between turbidity, suspended sediments, and coliforms and high flows associated with spring snowmelt and precipitation runoff events.

In recent years, the Flint WTP has undergone operational and process improvements for water treatment. Raw water quality during these testing periods when the WTP was operating but discharging to waste are noted in the table below.

Date of Tests	Turbidity	Total Organic Carbon	pH	Alkalinity	Hardness
	(NTU)	(mg/l)	(pH units)	(mg/l)	(mg/l)
12/5-7/2000	4.2	8.75	7.8	249	324
1/16-18/2001	2.4	8.5	7.7	275	363
3/20-21-2001	5.4	N/A	7.9	196	266
4/16-18/2001	7.6	8.6	8.2	213	284

Source Water Assessment Methodology

Technical guidelines for completing source water assessments are contained in the Michigan Source Water Assessment Program, Assessment Protocol for Great Lakes Sources (Protocol) (MDEQ, 1999, Appendix L) available at http://www.deq.state.mi.us/dwr. In general, an assessment is a process for evaluating a drinking water supply and the potential for its treated water to exceed an MCL due to raw water contamination. A source water assessment considers the SWA, potential sources of contamination within the SWA, conditions of the water supply intake, and susceptibility to contaminants in order to identify potential risks to drinking water quality. Although the Protocol provides the minimum requirements and instructions on how to conduct an assessment, each water supply is unique with respect to how the process is carried out, due to local conditions and information. Sweat and others (2000, 2001) have developed and documented the methodology used in the preparation of this assessment.

Delineating Source Water Areas

Delineation of the SWA is accomplished by using geographic information system (GIS) software to map the watershed(s) that have the potential to affect source water at the intake. Using information from the water supply, a critical assessment zone (CAZ) is defined for the intake (MDEQ, 1999, Appendix L). A buffer is then created along any shoreline intersected by the CAZ, and from the edge of the CAZ to the mouth of any river(s) that might influence the intake. Finally, the buffer is extended along the shoreline of any river(s) that might influence the intake, from the mouth of the river to its headwaters. The area defined by the CAZ, river and shoreline buffers is termed the susceptible area. The susceptible area within the SWA defines locations where a water supply should focus its management strategies and resources to benefit the drinking water resources.

Using the Great Lakes Protocol and the Flint water supply information:

- ·The CAZ for the Flint intake is assigned as 3,000 ft since the intake is located in an inland river (fig. 3).

- The susceptible area along the shoreline is determined to be: A distance of 300 ft inland along the banks of the Flint River and its tributaries (fig. 4).

Contaminant Source Inventory

Past, current, and potential future sources of contaminants were inventoried to identify several categories of potential sources of contaminants including microorganisms (bacteria, oocysts, and viruses), inorganic

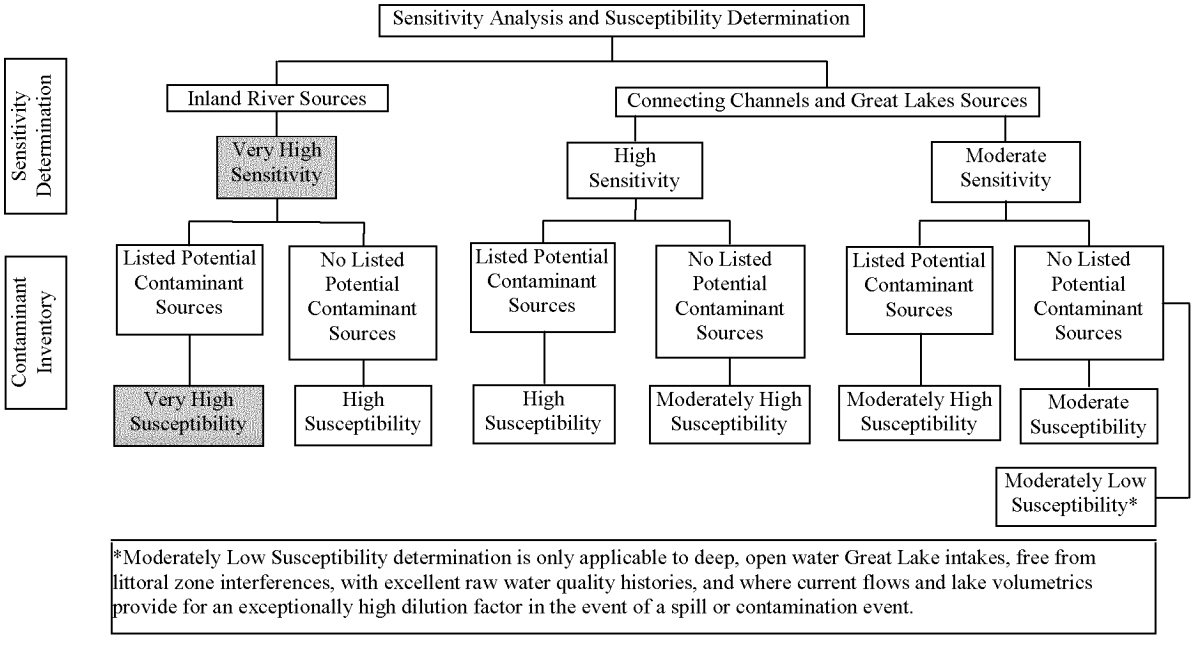


Figure 53. Surface-water sSource sSensitivity aAnalyses and sSusceptibility dDetermination for the Ann ArborFlint emergency water-treatment-plant source-water areas.

compounds (nitrates and metals), organic compounds (solvents, petroleum compounds, pesticides), and disinfection by-product precursors (trihalomethanes, haloacetic acids).

It is important to remember that sites and areas identified by this process are only potential contaminant sources used and managed properly. In addition, assumptions were made about particular types of land uses and risks associated with those land uses. Assumptions are discussed further in the results portion of this report.

The process for completing the inventory included several steps, which are summarized as follows:

1. Reviewed readily available land use maps and historical/current aerial photographs.
2. Plotted relevant information from applicable state and federal regulatory databases including the following lists:
   - ·MDEQ leaking underground storage tank (LUST) sites;
   - ·MDEQ registered underground storage tank (UST) sites;
   - ·MDEQ Environmental Cleanup Site Information System (ECSI) sites;

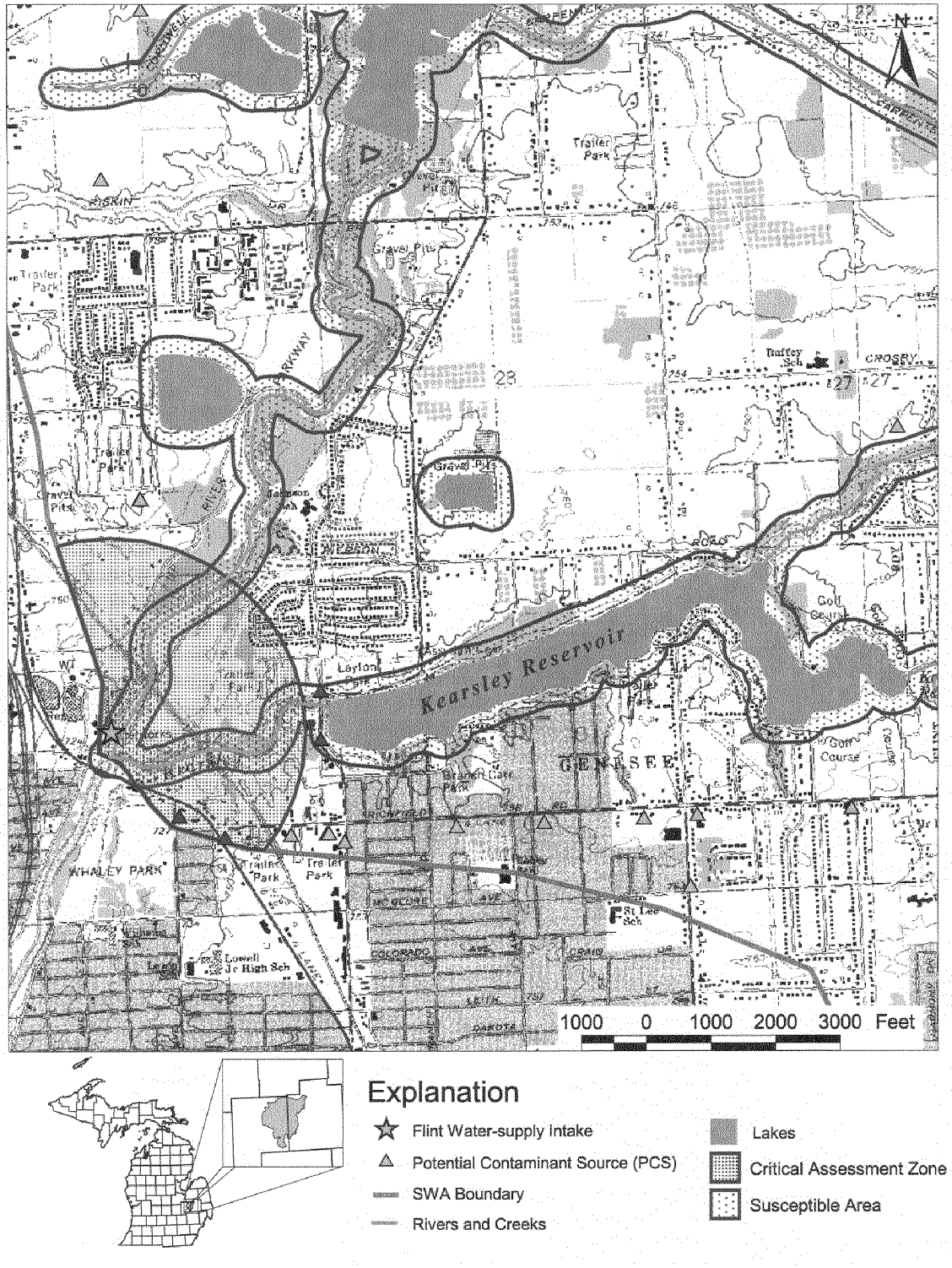


Figure 4. Critical Assessment Zone (CAZ) for the Flint emergency water-supply intake, Flint, MI.

- ·MDEQ Source Information System (for water discharge permit sites including National Pollutant Discharge Elimination System (NPDES) permits, Water Pollution Control Facility (WPCF) permits, storm water discharge permits, and on-site sewage (septic) system permits);
- ·MDEQ Underground Injection Control (UIC) database;
- ·MDEQ Active Solid Waste Disposal Permits list;
- ·Michigan Department of Transportation (MDOT) - Hazardous Materials database;
- ·State Fire Marshall registry of above-ground fuel storage tank sites;
- ·State Fire Marshall Hazardous Material Handlers and Hazardous Material Incidents (HAZMAT) sites;
- ·U.S. EPA BASINS software, version 2.1.
- ·U.S. EPA Envirofacts database;
- ·U.S. EPA Resource Conservation Recovery Act (RCRA) generators or notifiers list;
- ·U.S. EPA RCRA Treatment, Storage, and Disposal Facility (TSDF) Permits list;
- ·U.S. EPA National Priorities List (NPL);
- ·U.S. EPA Comprehensive Environmental Response, Compensation and Liability Information System (CERCLA) List;
- ·U.S. EPA RCRA Corrective Action Activity List (CORRACTS);
- ·U.S. Department of Transportation (DOT) Hazardous Materials Information Reporting System (HMIRS);
- ·U.S. EPA Toxic Chemical Release Inventory System (TRIS); and
- ·U.S. EPA Oil Pollution Act of 1990 Spill Response Atlas

3. Met with public water supply and community officials on June 11, 2003 to identify potential sources not listed elsewhere in databases or on maps and completed a preliminary inventory form to be used in completing the SWA base map. Subsequent contacts by email and telephone on numerous occasions to request additional data, clarify data, and discuss results.
4. Land use and/or ownership (for example, residential/municipal; commercial/industrial; agricultural/forest; and other land uses) was mapped and evaluated in relation to PCS, soil characteristics, and proximity to the intake(s).
5. Conducted an informal field inventory to locate additional PCS.
6. Completed final inventory form of PCS and plotted locations of PCS on the base map.

The purpose of the inventory is three fold: first, to provide information on the location of PCS, especially those within the susceptible area; second, to provide an effective means of educating the public about PCS; and third, to provide a reliable basis for developing a management plan to reduce potential contaminant risks to the Flint water supply.

The inventory process attempts to identify potential point-source contaminants within the SWA. It does not include an attempt to identify specific potential contamination problems at specific sites, such as facilities that do not safely store potentially hazardous materials. However, assumptions were made about particular types of land use. For example, it is assumed that rural residences associated with farming operations have specific potential contamination sources such as fuel storage, chemical storage and mixing areas, and machinery repair shops. It should also be noted that although the inventory depicts existing agricultural uses (crops grown), these are likely to undergo continual change due to normal crop rotation practices. What is irrigated farmland now may be non-irrigated farmland next year, or vice versa.

The results of the inventory were analyzed in terms of current, past, and future land uses and their relationship to the susceptible area and the supply intake. In general, land uses and PCS that are closest to the supply intake pose the greatest threat to a safe drinking water supply. Inventory results are summarized in table 1, and are shown on figure 5.

Many PCS are readily identifiable because they have a single discharge point, and often a permit is required for these discharges. However, other PCS have diffused, poorly defined discharge locations. These are known as non-point discharges because they occur over large areas and may not be quantifiable by readily accepted methods. These non-point source discharges are difficult to identify and control, and consequently to quantify, yet they are a major source of water pollution (Carpenter and others, 1998). Non-point sources also include atmospheric deposition over water and land, and include urban, rural, and

Table 1. Potential contaminant sources in the source water area

Type of Potential Contaminant Source (PCS)	Number of PCS	Number of PCS in Susceptible Area
Hazardous or solid waste site permits	71	11
Industrial facility discharge site permits	9	3
National priority list sites	1	0
Permit compliance system	12	2
Toxic release inventory permits	3	0
TOTALS	96	16

agricultural runoff from areas such as lawns, golf courses, farm fields, pastures, parking lots, and roadways. Runoff from these areas can contain many types of pollutants including sediments, metals, organic and inorganic chemicals, viral and bacterial pathogens, pharmaceuticals, and animal wastes. Transportation also represents a non-point source of contamination. Trucking and railroads transport potential contaminants through the SWA. An accident causing a spill could lead to potential contaminants entering a storm sewer, or in the case of boaters or rail transportation, directly to the Flint River. Petroleum pipeline crossing the upper reaches of the Flint River also pose contaminant threats.

Non-point sources of concern to the Flint water supply are primarily from storm sewers and from industrial, commercial, and residential sources in the SWA and communities upstream of the intake. A railroad bridge immediately upstream in the CAZ of the intake carries occasional train traffic described as hazardous. The West Boulevard storm sewer which discharges in the CAZ provides drainage to the Flint River from an industrialized area.



Railroad Trestle over Flint River Immediately Upstream of Flint WTP

The Michigan Department of Agriculture is working to identify dairies and concentrated animal feedlots (greater than 1000 animal units) in the Flint River watershed upstream of the intake.

The U.S. Environmental Protection Agency (USEPA) has identified one impaired water body in the Flint SWA on its Clean Water Act 303(d) list. The parameter of concern within the Holloway Reservoir is fish consumption advisories for PCBs. An additional impaired water body exists upstream of the SWA but not within the SWA itself. This water body is the collective of unnamed drains in Metamora, and the parameters of concern are untreated sewage discharge and pathogens (MDEQ, 2002).

In general, PCS within the susceptible area pose greater risks than those outside the susceptible area. The presence of PCS within the SWA indicates potential sources of chemicals that could, if improperly managed or released, impact the water quality at the intake. Small quantities of these chemicals, in some

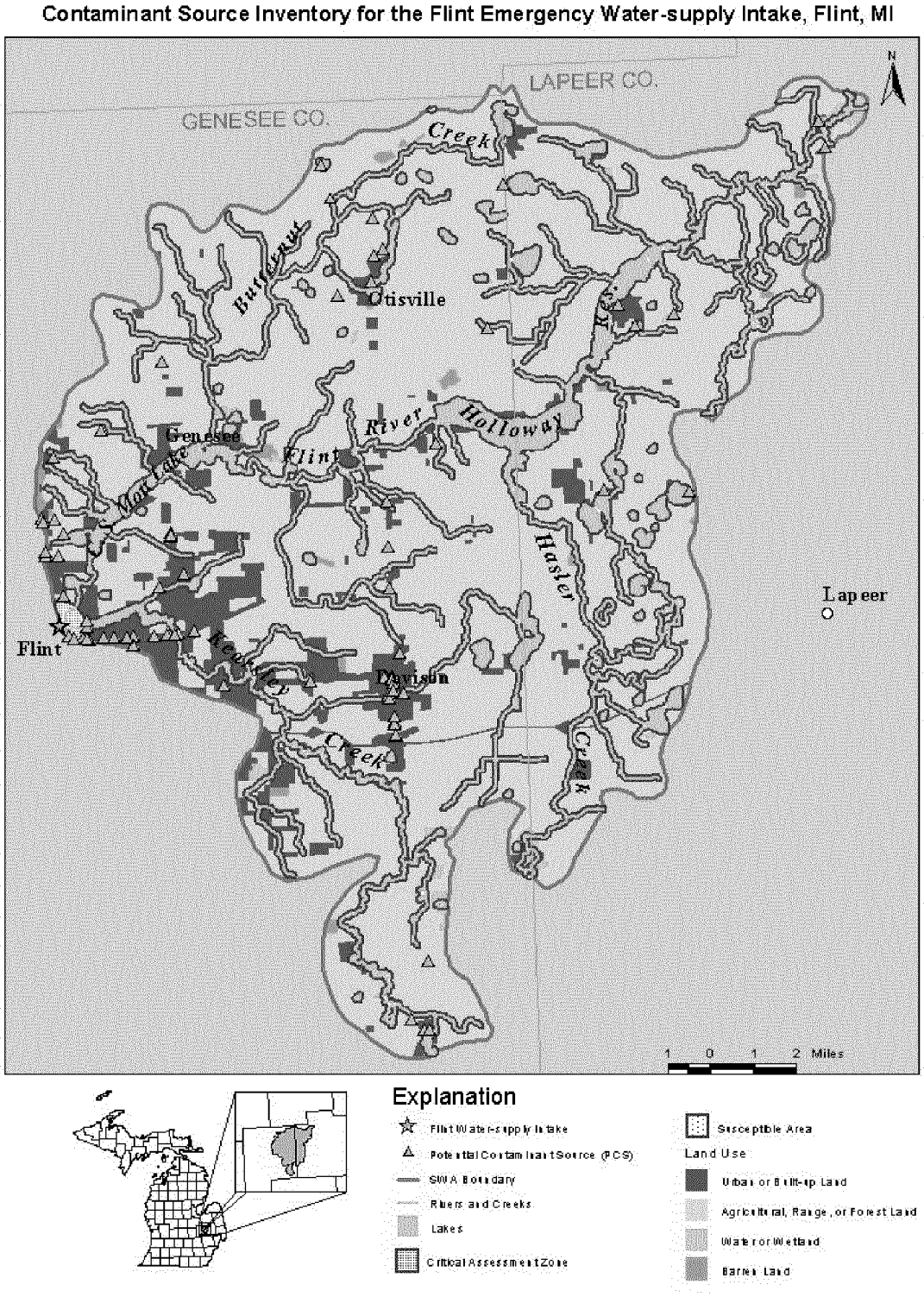


Figure 5. Potential Contaminant Sources in City of Flint Source Water Area, Flint, Michigan

cases less than a liter, can significantly affect the supply. Also of concern is the location and distribution of these sources with respect to highly permeable soils. The susceptible area consists of primarily agricultural and forested land with some urban areas. Overlaying the PCS locations and the moderately rapid to rapidly permeable soil map for the Flint SWA indicates that 21 of the located PCS are located on or very near to

areas with moderately rapid to rapidly-permeable soils. All PCS within the SWA should be addressed; the susceptibility determination, however, provides the water supply with the tools to focus resources where the greatest risk occurs. The results of the PCS inventory performed for Flint water supply is shown on figure 5 and is summarized as a function of PCS locations relative to the susceptible area. The inventory results indicate that there are 7 PCS, holding 8 permits for discharge, within the susceptible area (table 2).

Table 2. Contaminant source inventory.

Site Name	Identification Number	Reason for Permit	Reason for Listing as Potential Contaminant Source
DAVISON OIL AND GAS BURTON STA 7	MI0000540310	On-Site Storage	Hazardous and Solid Waste Site
H AND M SVC	MID985612225		
KINNIES PARTY STORE	MID985597657		
ZACK CO	MID002975225		
EVERGREEN CLEANERS	MID981539711		
DORT HWY INC	MID985579945		
SUPER GO MARKETERS INC	MID985583053		
PIONEER CABINETRY INC	MID985605849		
DAVISON CITY OF	MID985625136		
MID MICHIGAN AUTO PARTS INC	MID985654789		
CLARK STORE 1849	MI0001853613		
FORD-NORTHVILLE PLT	MI0024643	Process, Treatment, and Waste Waters	Industrial Facilities Discharge Site
FOREST WASTE PRODUCTS	YCRCLA276		
OTISVILLE WWTP [a]	MI0028720		
ORCHARD COVE WWTP	MI0054755	Waste Water, Dust, and Process Water	Permit Compliance System
OTISVILLE WWTP [a]	MI0028720		

Note: Subscript denotes multiple permits

Sensitivity Analysis

Sensitivity is the natural ability of a SWA to provide protection against the contamination of the water supply intake, and includes physical attributes of lakes, rivers, and soils. The sensitivity analysis requires consideration of several different variables related to the natural environment, for example:

- ·Water quality history of the source.
- ·Distribution of moderately to highly-permeable soils.
- ·Amount of available water from precipitation or runoff.
- ·Potential for runoff to affect the intake.
- ·Nature of the intake, including: depth, distance from shore, age, and materials used.
- ·Surface water flow patterns in vicinity of intake.

To perform this analysis, USGS, MDEQ, and the operator of the Flint WTP collected, researched, and analyzed information from the WTP, monthly operator reports, sanitary surveys, soil maps, published reports, and historical plant operation and raw water quality data. The Michigan SWAP has three categories of sensitivity for surface water sources ranging from moderately sensitive to very highly sensitive. Analysis of this information, using guidelines provided in Brogren (1999) and Sweat and others (2000, in press), indicates that the Flint intake is at the high end of this range or very highly sensitive (fig. 3). This means that the natural environment offers little protection against contamination of the water supply intake.

Susceptibility Determination

Susceptibility is the relative potential for contamination to reach the public water supply intake used for drinking water purposes. Whereas the sensitivity of a water supply is the natural ability of the area to protect the intake against contamination, the susceptibility determination also takes into account other factors that will affect whether a contaminant reaches the intake. Whether or not a particular drinking water source becomes contaminated depends on three factors:

(1) The distribution of PCS;
(2) The source water area; and
(3) The natural protection, or sensitivity, of the source.

In conducting a susceptibility determination, the part of the SWA that yields water to the water supply-system intake is identified by establishment of the susceptible area within the source water area. PCS within the susceptible area are then located. Based on the distribution of PCS within the susceptible area, the type of PCS, and the nature of the chemicals they use or store, PCS are analyzed for the risk they may represent to the water supply intake. Along with the presence and distribution of PCS, the sensitivity analysis is then used to determine the susceptibility of the water supply (fig. 3). This leads to a determination of whether the drinking water source is moderately susceptible, highly susceptible, or very highly susceptible to contamination (Brogren, 1999; Sweat and others, in press). It is important to understand that a system can have low sensitivity relative to some conditions (for example, intake construction and location), and high susceptibility because of other conditions (for example, the type of PCS). In Michigan, surface water sources of drinking water range from moderately-low to very-high susceptibility.

When a public water supply is determined to have a moderate, high, or very high susceptibility because of a particular condition or set of conditions, there is a significant risk of contamination of the drinking water source because of that condition or set of conditions. Although the susceptibility determination does not predict when or if contamination will actually occur, it does recognize conditions that are highly favorable for contamination of the supply. In the event of a contaminant release to soils or surface water within the susceptible area, it is very likely that contamination at the intake would occur without completion of remedial actions.

If a public water supply's drinking water source is determined to be highly susceptible, it is recommended that the system identify the condition(s) that lead to the high susceptibility. Immediate steps should be taken to protect the source, and action should be considered to remedy the condition (for example, repairing or replacing faulty intake construction, working directly with facility operators to implement sound management practices, etc.).

All water supplies, regardless of their susceptibility, should consider identified factors that could lead to higher susceptibility in the future, and should prepare a strategy to protect the water supply source. Raising public awareness through signs and other education programs, encouraging proper intake construction and the use of best management practices in existing facilities are good ways of ensuring that a surface water source maintains its moderate susceptibility rating.

Summary and Recommendations

The actual susceptibility of the drinking water source of a water supply depends on a number of contributing factors, some of which are only slightly related. Sensitivity is determined from the natural setting of the source and identifies the natural protection afforded to the source water. Susceptibility is determined by identifying those factors within the community's SWA that may pose a risk to the source water. The susceptibility determination provides information with respect to facilities within the SWA or land areas within the SWA that should be given greater priority and oversight in the implementation of a drinking water protection program.

Sensitivity Analysis: Based on criteria adopted in the Great Lakes Protocol of the Michigan Source Water Assessment Program, the emergency intake for the Flint Water Treatment Plant has a very high degree of sensitivity to potential contaminants.

Susceptibility Determination: The SWA for the Flint intake includes 8 listed potential contaminant sources within the susceptible area, numerous storm drains discharging upstream of the intake, a railroad crossing plus urban, agricultural, and industrial runoff from the Flint River watershed. Combining these potential contaminant sources with the very highly sensitive intake yields a very highly susceptible determination for Flint source water (fig. 5).

Effective Treatment:

The results of this assessment and the recommendations based on these results are summarized as follows:

- ***Intake*** - The Flint Water WTP intake was installed in 1948 and draws water from the Flint River from a shoreline structure making the intake very highly sensitive.
- ***Soils*** - Using a mean, area-weighted, depth-integrated permeability estimation, the soil and subsoil permeability in the SWA range from 0.6 in/hr to as much as 7.7 in/hr. The mean permeability is 3.1 in/hr (Schneider and Erickson, undated, series of 5 maps; BASINS, 1998; MIRIS, 2000). About two thirds of the soils in the Flint SWA are moderately rapid or rapidly permeable. Sixteen (16) PCS are located on these soils. These factors combine to make the SWA, and thus the intake, very highly sensitive. The community should take steps to evaluate current and future land use in areas of highly permeable soils, particularly those occurring within the susceptible area. Those PCS that have been identified either on or in close proximity to these soils should be informed of the sensitive nature of the area and encouraged to adopt best management practices designed to minimize the risk of a ground release. Residential areas that have been developed on these soils should be targeted for educational programs identifying steps that residents can take to protect the water supply.
- ***Historical Contaminant Detections*** – Since the Flint WTP has not utilized the Flint River since 1967 as a source of public drinking water, extensive raw water quality data is not available. However, as is typical for river water, the periodic presence of coliform bacteria is indicative of a relationship between runoff and soil conditions, causing the presence of bacteria at detectable levels in river source water. Background turbidity has recently been reported in the range of 2.4 to 7.6 NTU. These factors indicate that the SWA, and thus the intake, is very highly susceptible.
- ***Sanitary Survey*** – Defects reported as requiring repair either have been corrected or are scheduled for repair. The Flint WTP is undergoing extensive upgrades to improve treatment and reliability. It is important that the water supply continue to follow good management practices.
- ***Potential Contaminant Sources*** - A review of the PCS inventory and the rapidly and very rapidly permeable soil distribution indicates that the Flint SWA has 21 PCS located on moderately rapid to rapidly permeable soils. Within the susceptible area, there are 7 PCS with 8 discharge permits. In addition, there are numerous storm drains within the vicinity of the intake. A railroad crossing immediately upstream of the intake also poses a potential contaminant threat. It is recommended that the community focus initially on PCS that are within the susceptible area as they pose the greatest potential threat to the water supply. These facilities should be made aware of free technical assistance that is available through MDEQ's pollution prevention programs. Through chemical inventory, waste reduction, and by increasing awareness of best management practices, the risk these facilities pose to source waters can be reduced. The PCS inventory indicates that the source is very highly susceptible.
- ***Source Water Assessment*** - The Flint source water assessment is based on these site-specific parameters:
  1. Definition of a Critical Assessment Zone around both intake for a very highly sensitive source;
  2. Definition of a SWA for the Flint River, and shoreline near the intake;
  3. Flow duration and discharge in the Flint River upstream of the intake, and the effects of upstream contaminant discharges on the source water quality; and
  4. Listed and nonlisted potential contaminant sources.
- ***Source Water Protection*** - The City has initiated source water protection activities with an Industrial Pretreatment Program incorporating management plans, chemical containment, and spill response, spill response training, plus storm sewer and street cleaning programs.

The Flint WTP and/or the community should assemble a team to assist in the development and implementation of a source water protection program that uses this assessment to further protect the Flint source water area.

Selected References

Blumer, S.P., Behrendt, T.E., Ellis, J.M., Minnerick, R.J., LeuVoy, R.L., and Whited, C.R., 2000, Water Resources Data Michigan Water Year 1999: Water-Data Report MI-99-1, 365 p.

Carpenter, S.R., Caraco, N.F., Correll, D.L., Howarth, R.W., Sharpley, A.N., and Smith, V.H., 1998, Nonpoint Pollution of Surface Waters with Phosphorus and Nitrogen, Ecological Applications, 8:3, 559-568.

City of Flint, 2002. About Flint. Statistical Snapshot. http://www.cityofflint.com/About/stats.asp. Accessed Feb 12, 2003.

Flint River Watershed Reports, Genesse County Health Department, April 15, 1999

Leonardi, J.M. and Gruhn, W.J., Flint River Assessment, Michigan DNR, July 2001

Lusch, D.P., Rader, C.P., Barrett, L.R., and Rader, N.K., 1992, Aquifer vulnerability to surface contamination in Michigan: Center for Remote Sensing and Department of Geography, Michigan State University, East Lansing, MI, scale 1:1,500,000.

Martin, H.M., 1955, Map of the surface formations of the southern peninsula of Michigan: Michigan Geological Survey, Department of Conservation, Publication 49, scale 1:500,000, 2 sheets.

Michigan Department of Environmental Quality, 2002. Clean Water Act Section 303(d) List Michigan Submittal for 2002. Staff Report. Draft. Surface Water Quality Division.

-----,1999, State of Michigan Source Water Assessment Program, 153 p.

Miller, J.B. and Twenter, F.R., 1986, Michigan surface-water resources, in U.S. Geological Survey, National Water Summary 1985-hydrologic events and surface-water resources: U.S. Geological Survey Water-Supply Paper 2300, p. 277-284.

Milstein, R.L., compiler, 1987, Michigan sesquicentennial, 1837-1987, bedrock geology of southern Michigan: Michigan Department of Natural Resources, Geological Survey Division, scale 1:500,000.

MIRIS, 2000, Michigan Resource Information System: Michigan Department of Natural Resources, Land and Water Management Division, 2 compact discs, as updated.

National Oceanic and Atmospheric Administration, 1999, Climatological Data, Michigan: U.S. Department of Commerce, 113:13.

Rheaume, S.J., 1991, Hydrologic provinces of Michigan: U.S. Geological Survey Water-Resources Investigation Report 91-4120, 73 p., 1 plate, scale 1:500,000.

Sweat, M.J., Erickson, P.M., and Brogren, B.B., 2000, The Michigan Source Water Assessment Program for Evaluation of Public Surface Water Supplies, in Bryant, Jeff, ed., NWQMC National Monitoring Conference 2000: Monitoring for the Millennium, Austin, TX, April 25-27, 2000.

Sweat, M.J., Brogren, B.B., Jodoin, R.S, Rossi, T.A., and Loerop, M.A., 2002, Michigan's Source Water Assessment Program -- Surface Water Assessments Leading to Protection Initiatives, in, Proceedings of Watershed 2002: Water Environment Federation International Conference, February 23-27, 2002, Fort Lauderdale, FL, 28 p. (also MDEQ Source Water Assessment Report 22)

Sweat, M.J., Brogren, B.B., Jodoin, R.S., and Rossi, T.A., in press, A source water assessment program for evaluation of public water supplies using surface water sources in Michigan: U.S. Geological Survey Water Resources Investigations Report 01-xxxx, xx p (also MDEQ Source Water Assessment Report 8)

Twenter, F.R., Knutilla, R.L, and Nowlin, J.O., 1976, Water resources of Washtenaw County, Michigan: Washtenaw County Planning Commission, 143 p., 43 figs., 18 tables.

U.S. Department of Agriculture, in press, Soil survey of Washtenaw County, Michigan:

-----, 1982, Soil survey of Oakland County, Michigan: 167 p., 135 sheets.

-----, 1992, Soil survey of Ingham County, Michigan: 149 p., 84 sheets.

-----, 1993, Soil survey of Livingston County, Michigan: 92 p., 44 sheets.

-----, in press, Soil survey of Jackson County, Michigan:

GLOSSARY

Critical Assessment Zone (CAZ) - the area from the intake structure to the shoreline and inland, including a triangular water surface and a land area encompassed by an arc from the endpoint of the shoreline distance on either side of the on shore intake pipe location

Geographic Information System (GIS) - a system to capture, store, update, manipulate, analyze, and display all forms of geographically referenced information

Impaired water bodies - As defined by USEPA and listed on the 303 (d) list of the federal Clean Water Act.

Intake - the point at which source (raw) water is drawn into a pipe to be delivered to a water treatment plant

Lignins - an amorphous, cellulose-like, organic substance that acts as a binder for the cellulose fibers in wood and adds strength and stiffness to cell walls

Maximum Contaminant Level (MCL) - the maximum permissible level of a contaminant in water that is delivered to any user of a public water system

Potential Contaminant Sources (PCS) - listed and non-listed agricultural sites, businesses, and industries that have the potential to cause contaminants to be introduced into source water

Sensitivity - a measure of the physical attributes of the source area and how readily they protect the intake from contaminants

Source - the water body from which a water supplier gets its water

Source Water Area (SWA) - the land and water area upstream of an intake that has the potential to directly influence the quality of the water at the intake

Source Water Assessment Program (SWAP)- in Michigan, the process defined by the state Department of Environmental Quality to complete assessments of all the state's public water supplies

Susceptibility - the Susceptibility identifies factors that may pose a risk within the community's SWA

Susceptible Area - the area defined by the critical assessment zone and a buffer on either side of any drainages that contribute water to an intake

Synthetic Organic Contaminants (SOC) - Manmade organic chemical compounds such as pesticides, etc.

Tannins - naturally occurring phenolic compounds that precipitate proteins, alkaloids, and glucosides from solution that has a yellowish appearance

Volatile Organic Contaminants (VOC) - Unnatural, volatile organic chemical compounds such as gasoline components, solvents, degreasers, etc

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:11 AM
To: 'bwright@cityofflint.com'
Subject: FW: PEAS call
Attachments: 20150318_174119.jpg; 20150318_173619.jpg; 20150318_174108.jpg; RE: WRD - PEAS - Oil Sheen

Brent,

More info…..

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Bennett, Charles (DEQ)
Sent: Thursday, March 19, 2015 10:10 AM
To: Thomas Hutchings (thutchings@cityofflint.com)
Cc: Kammer, Stephanie (DEQ); Prysby, Mike (DEQ); Case, Robert; Busch, Stephen (DEQ)
Subject: PEAS call

Tom, I just spoke with a gentleman that reported a discharge to the Flint River south of Carpenter Rd at Bray. The complainant stated that the material is whitish and may have a sheen also. He said it looks like crews have done some excavating along the bike path near this discharge. Attached are photos that I received a moment ago from the caller.

Also, you may want to contact Brent Wright about this matter as well, since our Drinking Water engineer has contacted him about this also (see attachment). Please let me know what you find.

thanks,
chuck

Charles Bennett, PE
DEQ Water Resources Division
Lansing District Office
BennettC4@michigan.gov
ph 517-284-6659; fax 517-241-3571







From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:03 AM
To: Rennaker, Joanne (DEQ);Blayer, Steve (DEQ);Arduin, Jim (DEQ)
Cc: Busch, Stephen (DEQ);Bennett, Charles (DEQ)
Subject: RE: WRD - PEAS - Oil Sheen

I notified the city – Brent Wright (WTP OIC) of the situation given that this just upstream of their WTP intake. Brent and his staff will go out to investigate. Based on past history, he is speculating that it is a break in their lime sludge line. This line is located close to the Flint River in this area and has experienced breaks in the past. I also provided Brent with the caller's name and suggested to contact him and let him know that the city is following up on this incident.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Rennaker, Joanne (DEQ)
Sent: Thursday, March 19, 2015 9:05 AM
To: Prysby, Mike (DEQ); Blayer, Steve (DEQ); Arduin, Jim (DEQ)
Subject: FW: WRD - PEAS - Oil Sheen

Jo Anne Rennaker
Secretary
Department of Environmental Quality - Lansing District Office
Office of Drinking Water & Municipal Assistance
Office of Waste Management & Radiological Protection
517-284-6643

From: Jesko, Roxanne (DEQ)
Sent: Thursday, March 19, 2015 9:02 AM
To: Gutting, Karen (DEQ); DEQ-PEAS-Lansing
Cc: Bennett, Charles (DEQ)
Subject: RE: WRD - PEAS - Oil Sheen

WRD has it Chuck Bennett will be the lead.

From: Gutting, Karen (DEQ)
Sent: Thursday, March 19, 2015 8:44 AM
To: DEQ-PEAS-Lansing
Subject: WRD - PEAS - Oil Sheen
Importance: High

PEAS Form 2014			revised July 23,
First Response please "Reply All" to receipt of this PEAS Notification ASAP. Media: Water County: Genesee Ticket # 1498			
Incident Description: There is a sanitary sewer that runs parallel with the Flint river that has had several line breaks. This is causing a sheen on the water. Some of this has solidified along the river bank and is white in color. This is approximately ¼ mile down the bike trail where Bray Rd. ends S of Carpenter. Whatever is coming out of the line, is coming out steady. Caller has photos if needed.			
Complainant (C)		**Party Involved (PI) – Company**	
Name	James Joseph	Person Name	
Street Address		Company Name	
City or Township		Street Address	
State		City or Township	
Phone	810-820-5526	State	
Alt Phone		Phone	
Type		Alternate Phone	
Incident Street Address	S. of Carpenter and Bray Rd (where Bray Rd. stops and now it's a bike path)		
Cross Streets		**Name of Pollutant**	unsure
City or Township	Flint	Release to **Water** (g)	unknown
County		Release to **Ground** (g)	
Water Body Impacted	Flint River	Release to **Air** (lbs)	
Occurred: Date/Time/Ongoing	unsure	**Cleanup Contractor**	
Release Secured: Y or N		**Cleanup Contractor on site: Y or N**	

Comments:

Karen Gutting
Department of Environmental Quality
Office of Environmental Assistance
Environmental Assistance Center
800-662-9278

From: Prysby, Mike (DEQ)
Sent: Friday, April 03, 2015 2:47 PM
To: 'bwright@cityofflint.com';Michael Glasgow
Subject: FW: Schematics for LT2 sampling plans
Attachments: Schematics_combined.pdf; SCHEMATIC_01.pdf; SCHEMATIC_02.pdf; SCHEMATIC_03.pdf; SCHEMATIC_04.pdf; SCHEMATIC_05.pdf; SCHEMATIC_06.pdf; SCHEMATIC_07.pdf; SCHEMATIC_08.pdf; SCHEMATIC_09.pdf; SCHEMATIC_10.pdf

Brent, Mike

Attached are the example schematics that the plants on Schedule 2 may use to indicate where the source water sampling location is in relation to the intake, chemical feed points, recycle streams (if any) and the plant. You can select the schematic that best fits your situation and mark the sampling location and other pertinent information on it. If you can't find a schematic that doesn't fit Flint's exact setup, you can use the generic/blank one (schematic 10). Your Schedule 2 Crypto. monitoring letter is being mailed to you today.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

Figure 1. Sample Tap before Chemical Treatment and Backwash Water Recycle (if applicable)

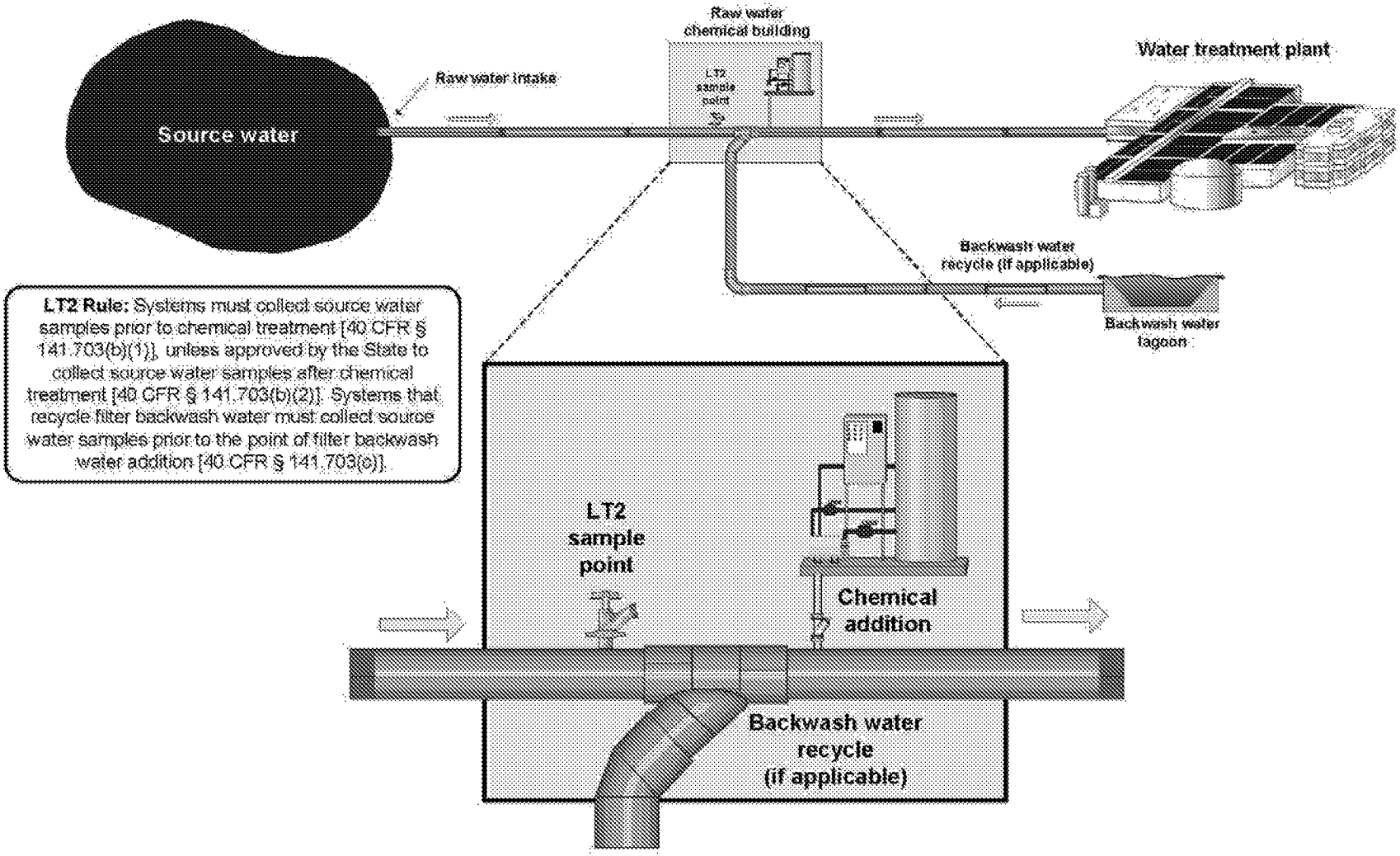


Figure 2. Multiple Sources: Sample Tap after Two Combined Sources

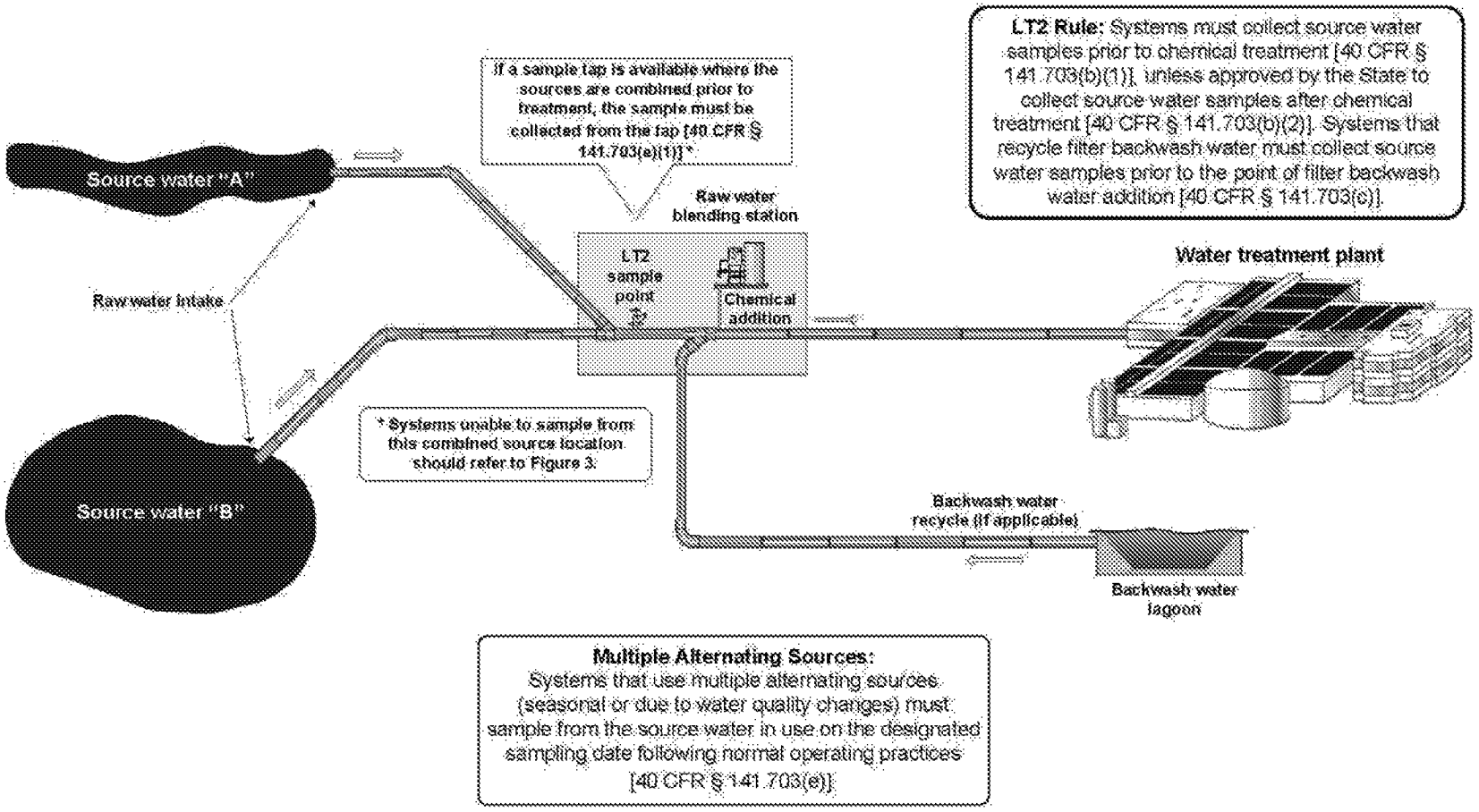
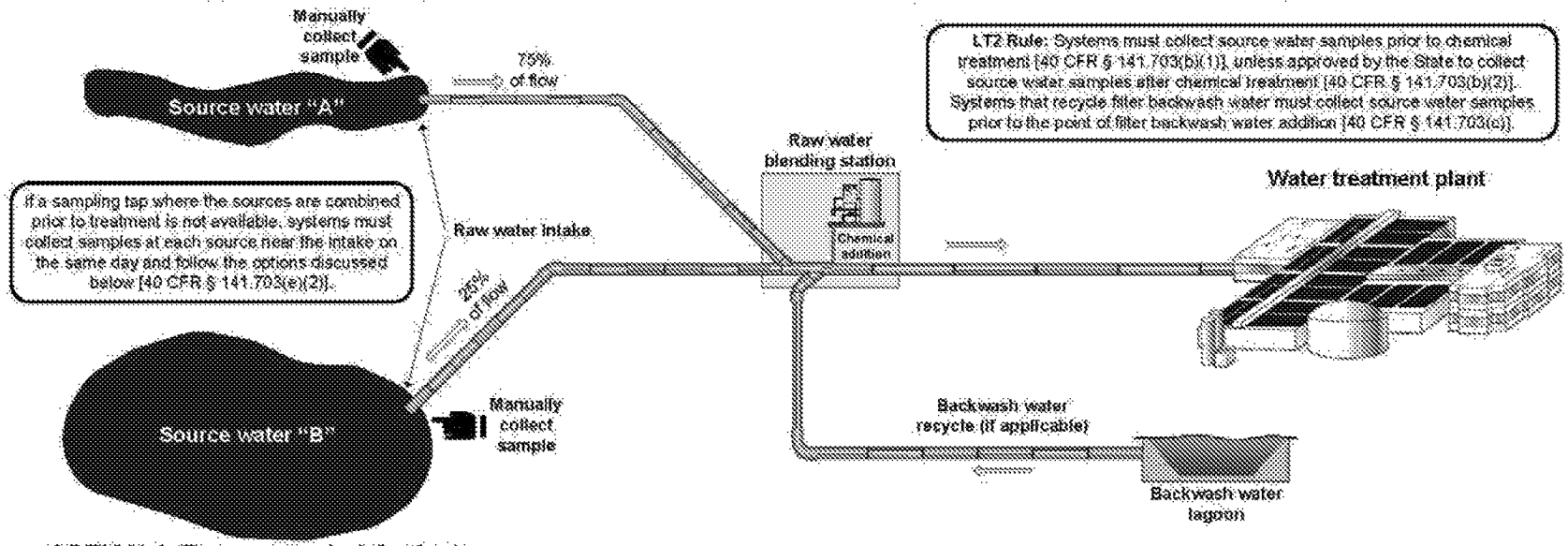
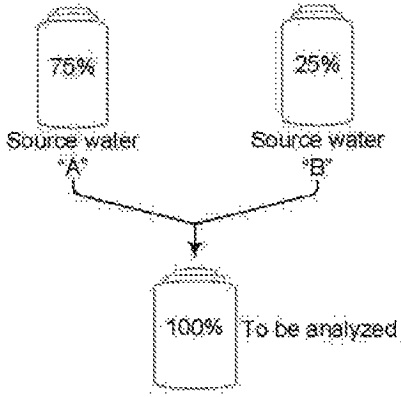


Figure 3. Multiple Sources: Two (or More) Sources to be Composited



OPTION 1 (Recommended Option):

Collect samples manually at each source near the intake on the same day and composite them into one sample to be analyzed. The volume of sample from each source must reflect its proportion of the total plant flow at the time the samples were collected [40 CFR § 141.703(e)(2)(i)].



OPTION 2:

Collect samples manually at each source near the intake on the same day and analyze each independently, then calculate a weighted average of the analysis results. This is done by multiplying the result for each source by the percentage of its contribution to the total plant flow at the time the samples were collected, and then summing these values [40 CFR § 141.703(e)(2)(ii)].

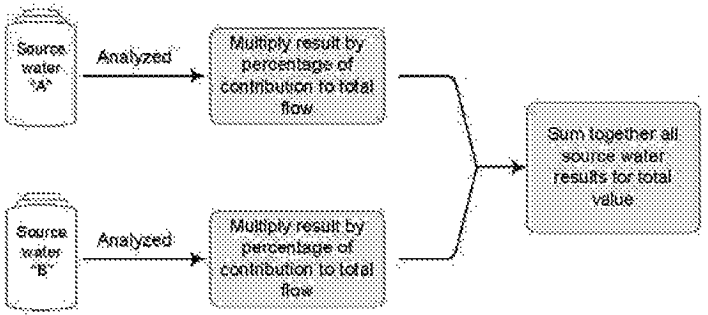


Figure 4. Multiple Plants with the Same Influent

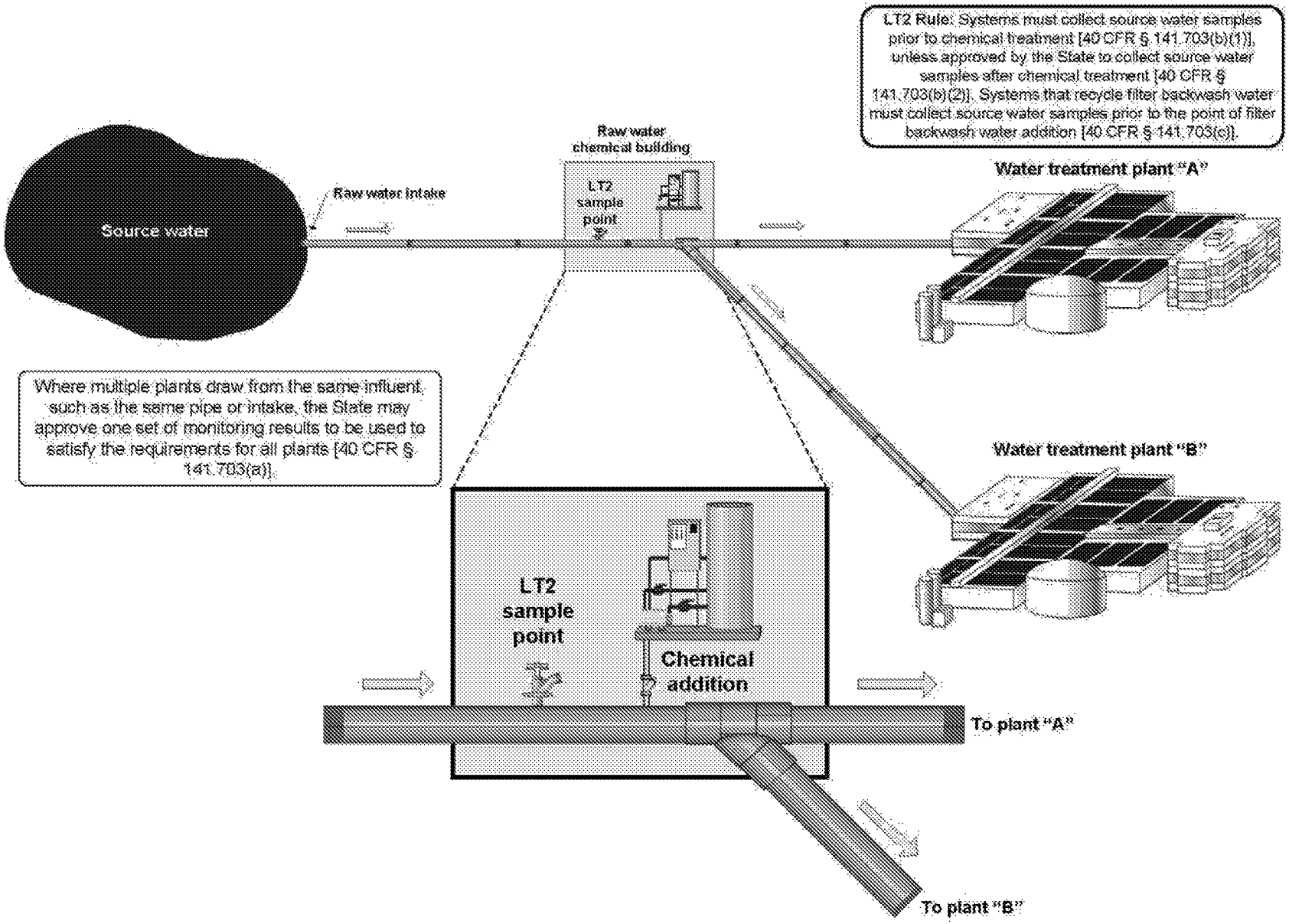


Figure 5. Bank Filtration

The correct sampling location for systems using bank filtration differs depending on whether the bank filtered water is treated by subsequent filtration:

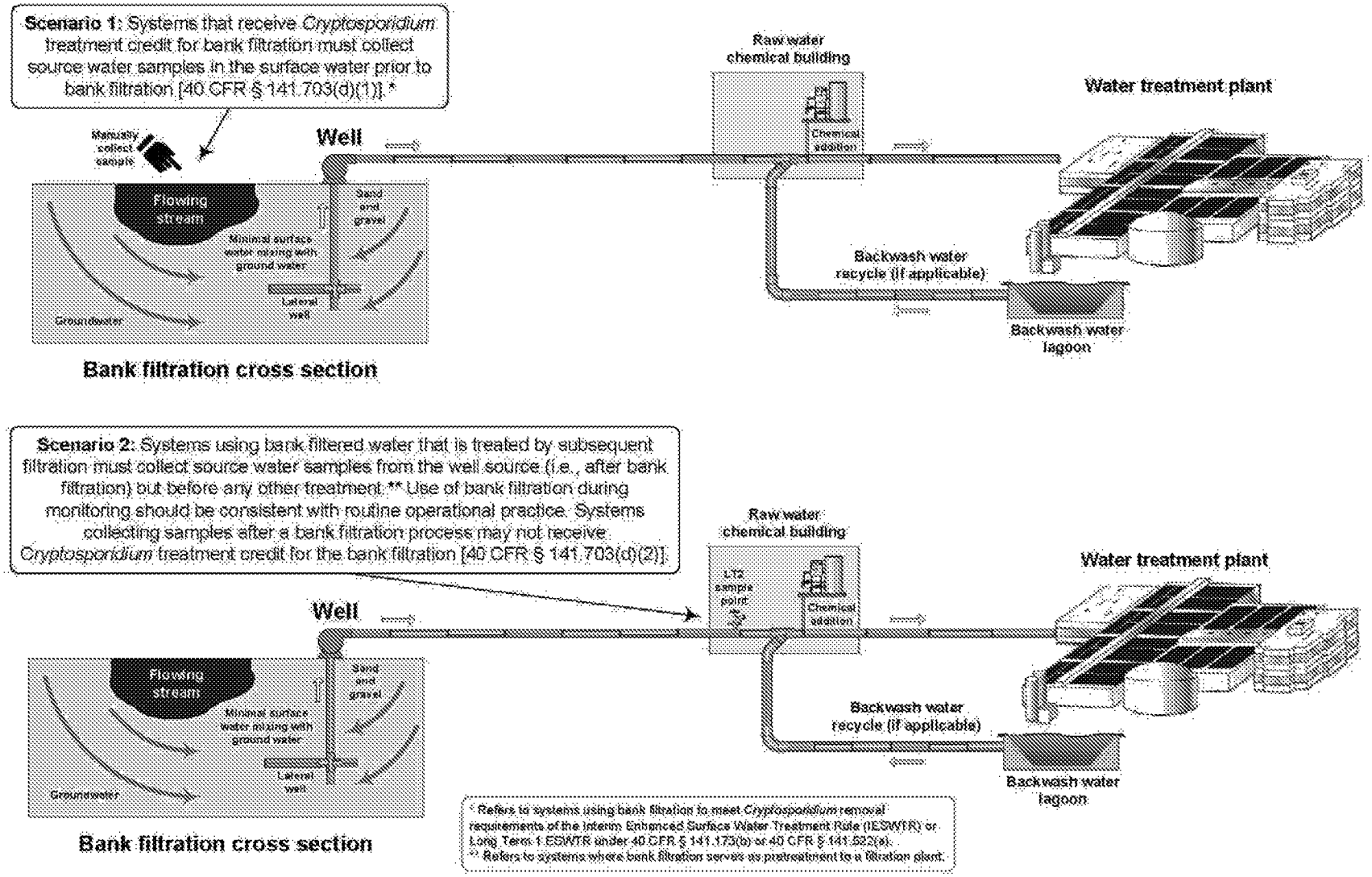


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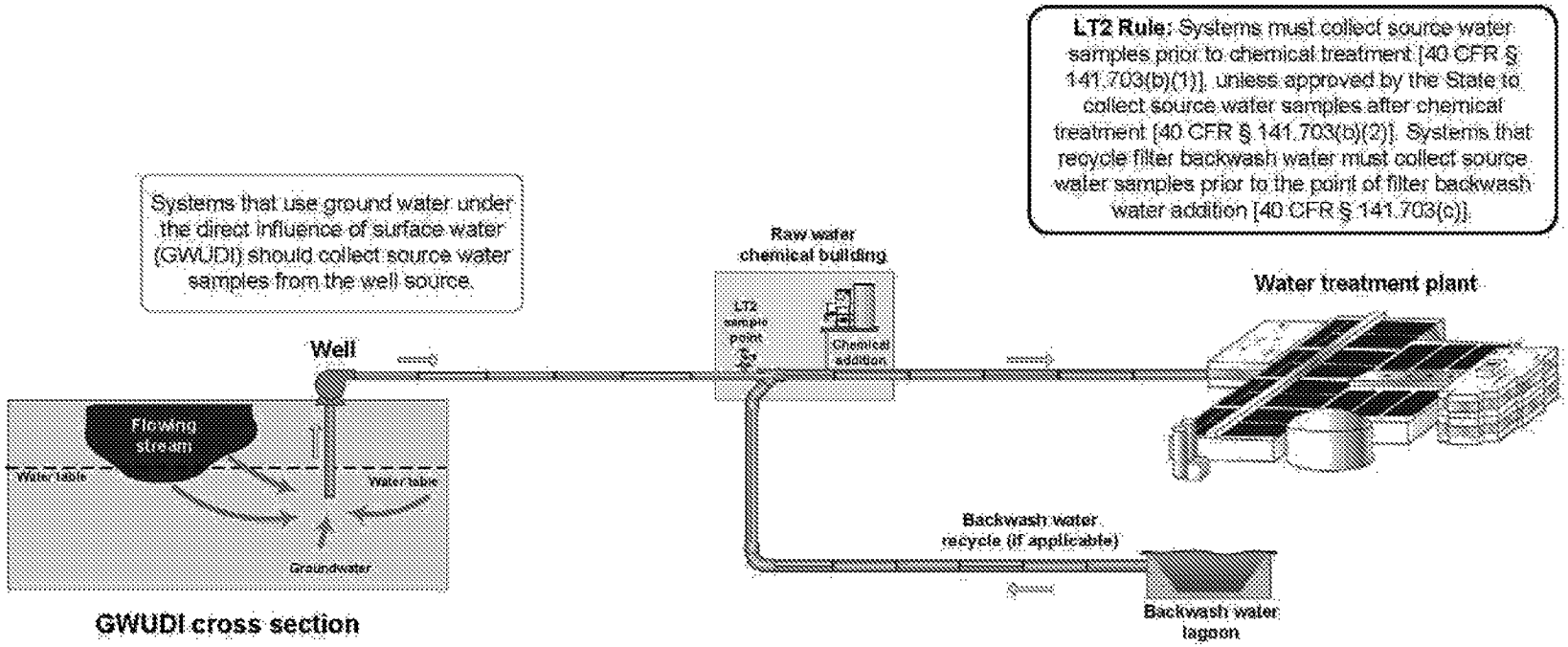
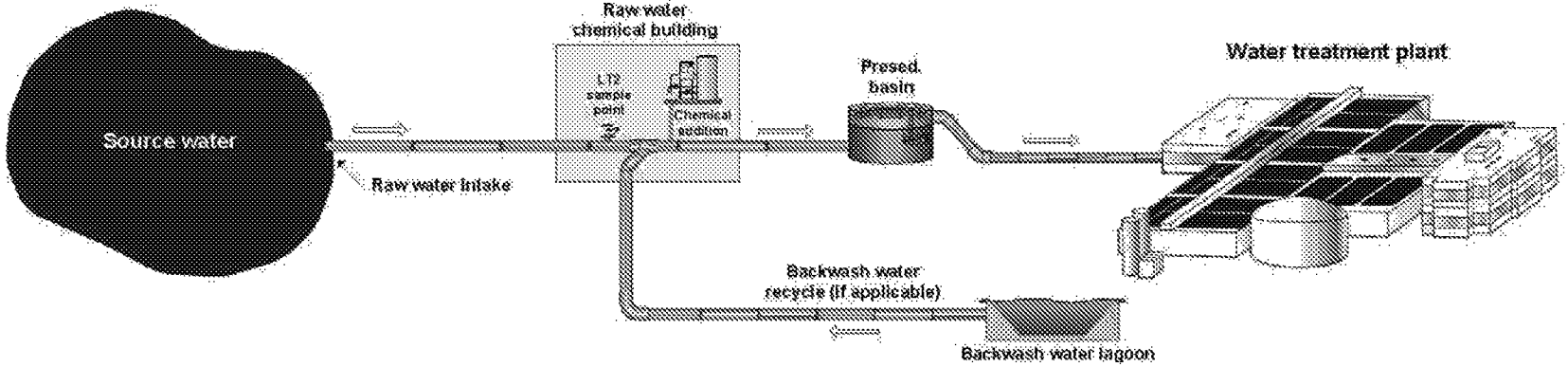


Figure 7. Presedimentation Basin

Scenario 1:
Systems using a presedimentation basin with chemical addition should collect source water samples prior to chemical treatment, unless approved by the State to collect source water samples after chemical treatment. Systems that recycle filter backwash water must collect source water samples prior to the point of filter backwash water addition [40 CFR § 141.703(c)].



Scenario 2:
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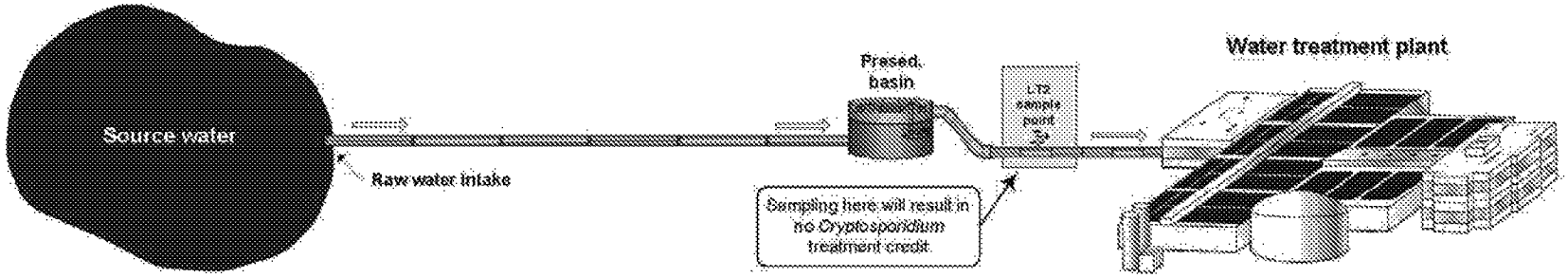


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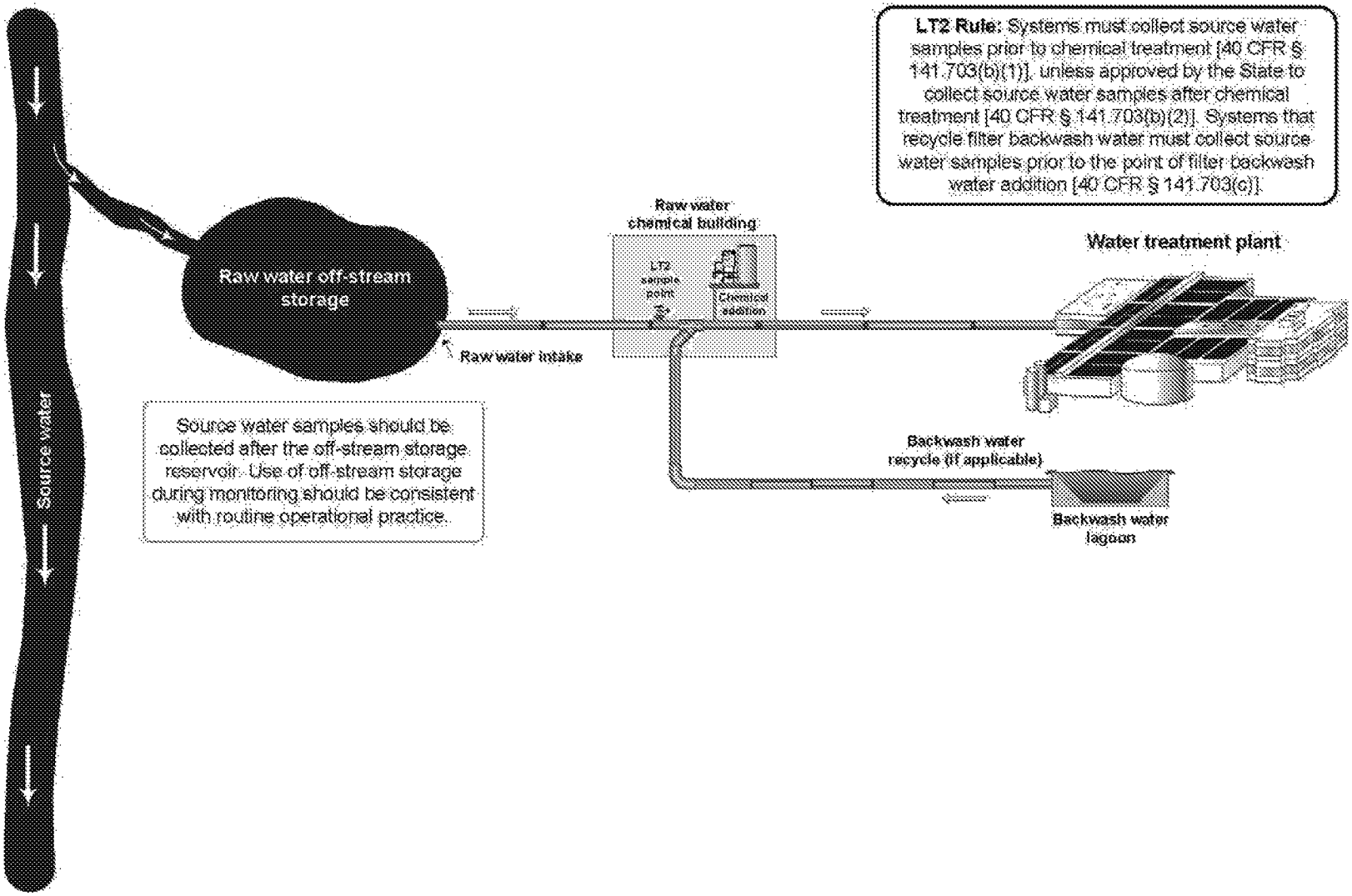


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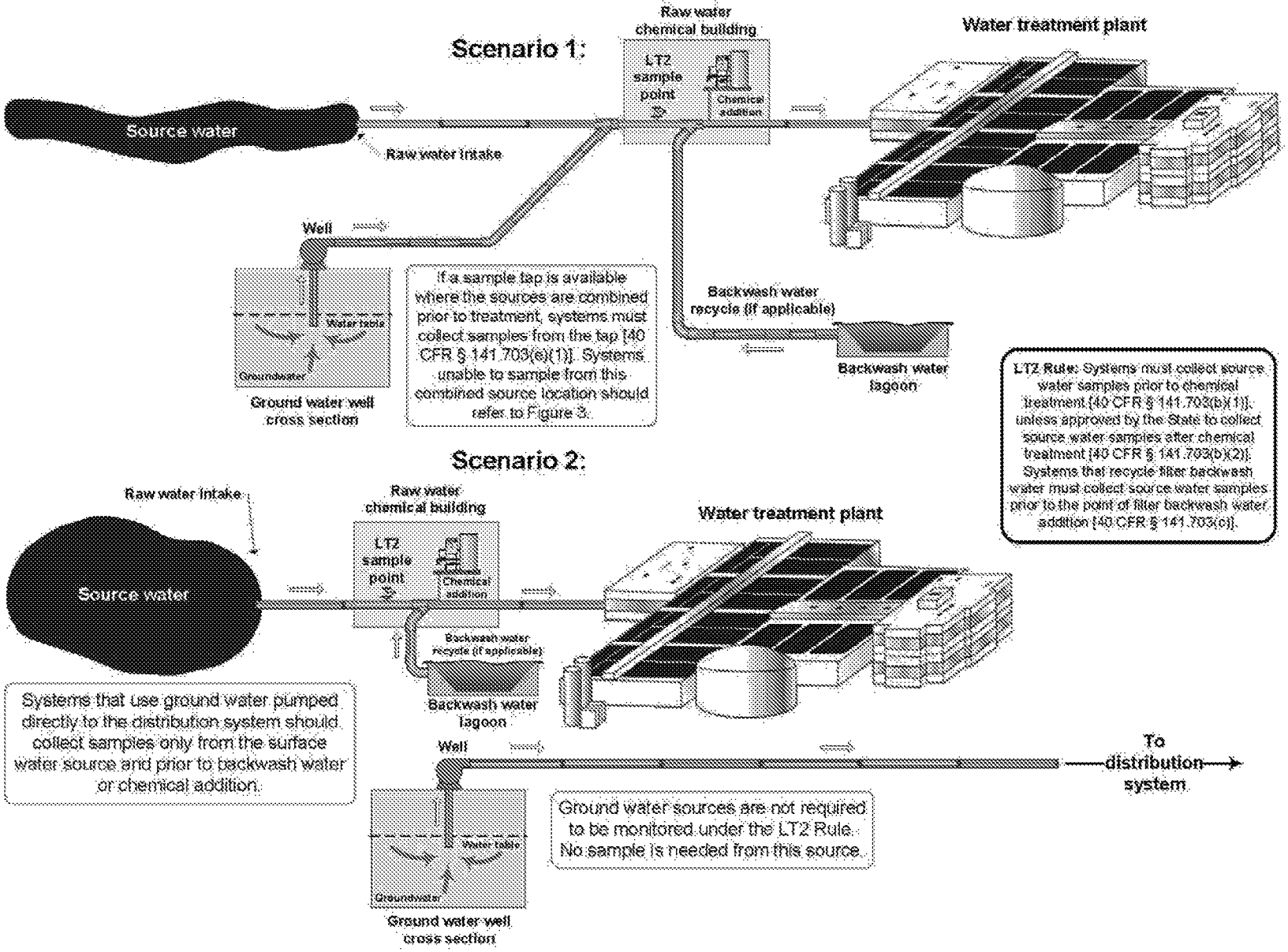


Figure 10. Blank Schematic for Submission to EPA

Public Water System (PWS) name: _____

PWS ID: _____

Water treatment plant name: _____

Water system facility ID: _____

Indicate the following on the diagram that best represents your facility type (if applicable):

1. LT2 sampling location
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3. Filter backwash water addition
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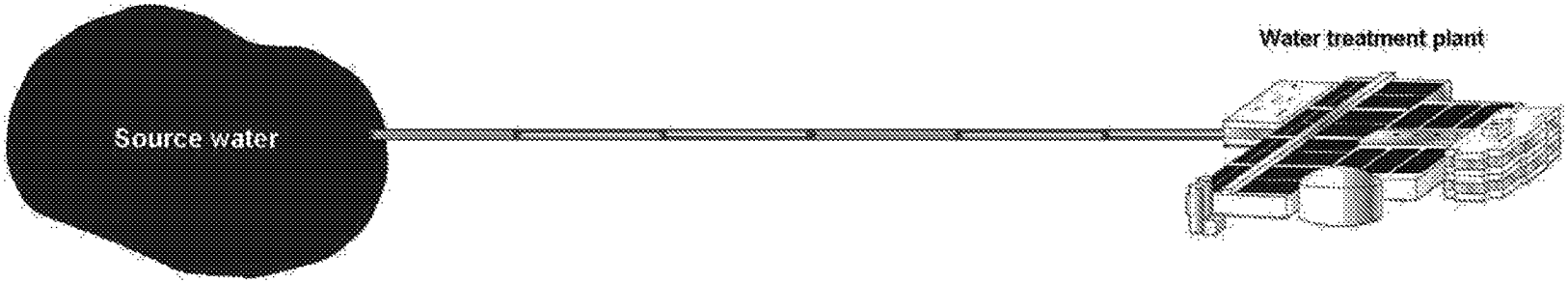


Figure 1. Sample Tap before Chemical Treatment and Backwash Water Recycle (if applicable)

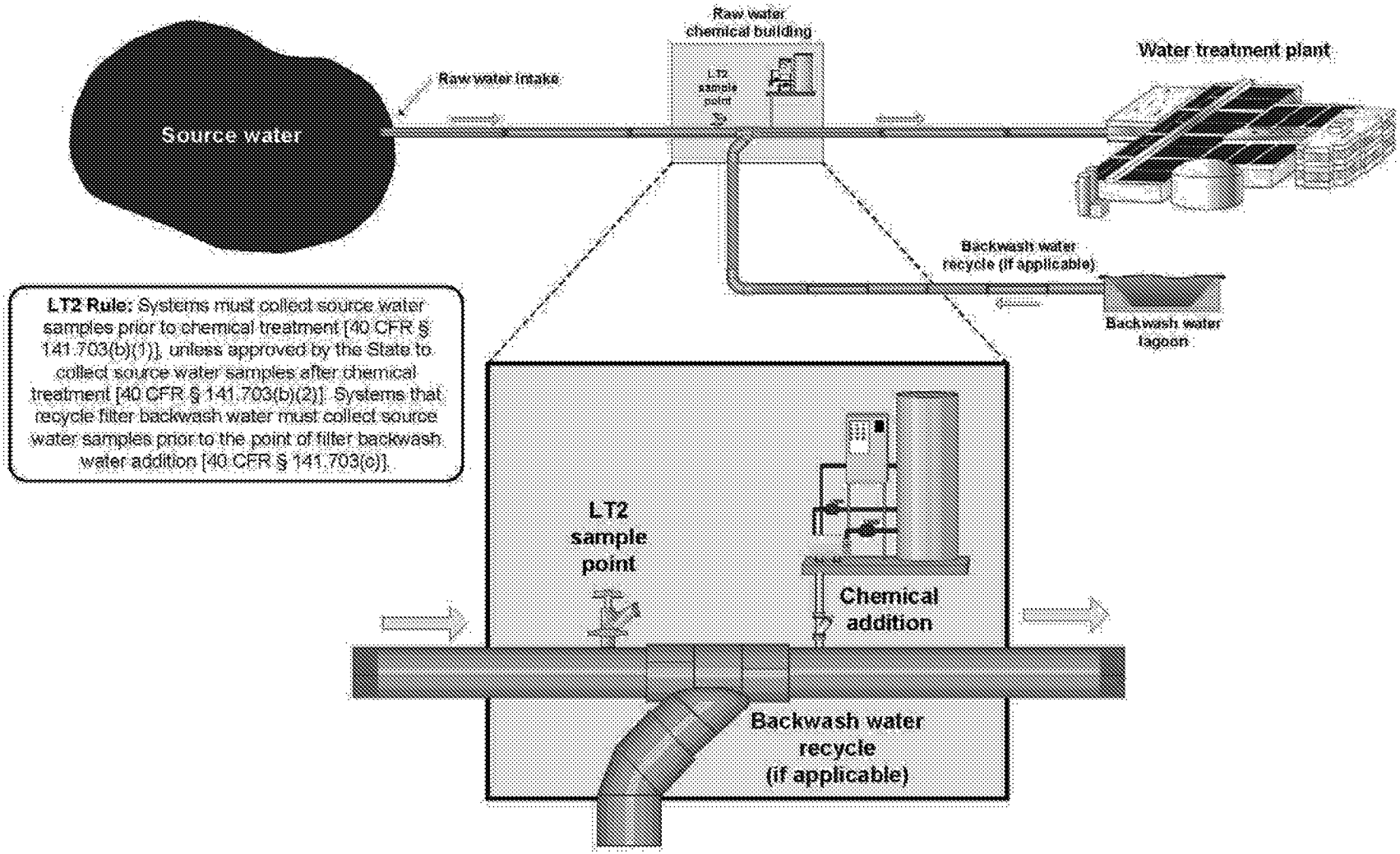


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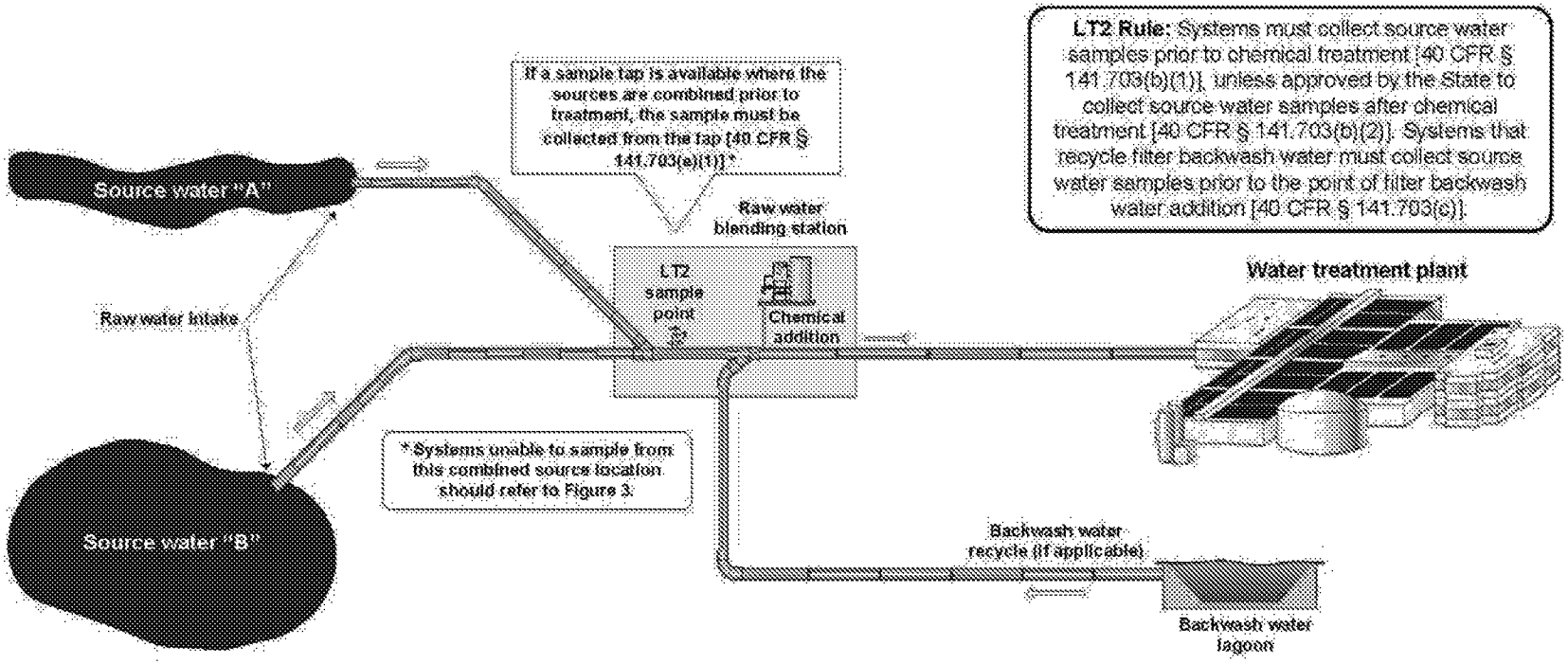
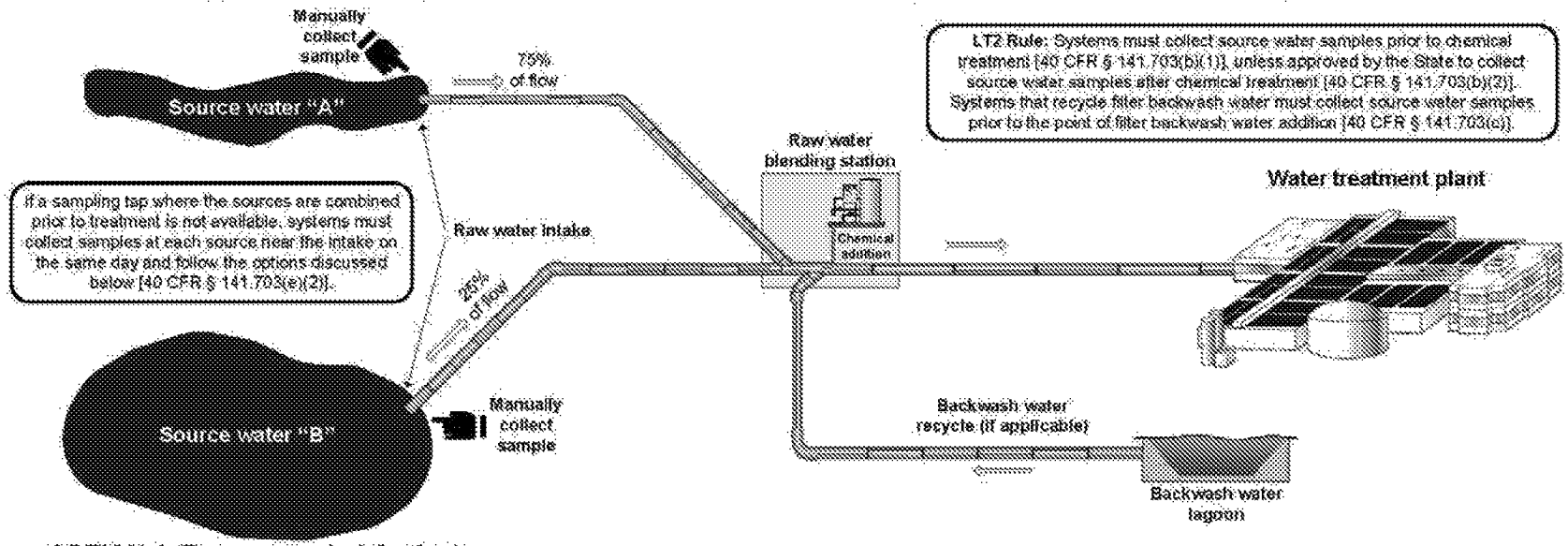
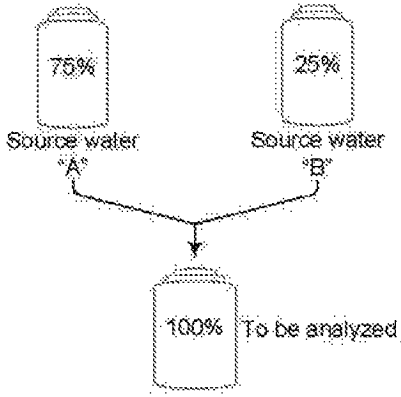


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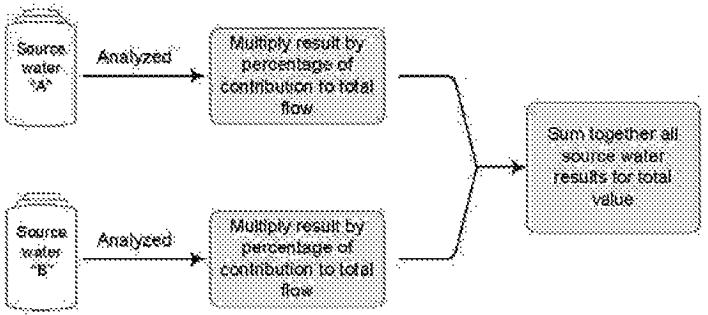


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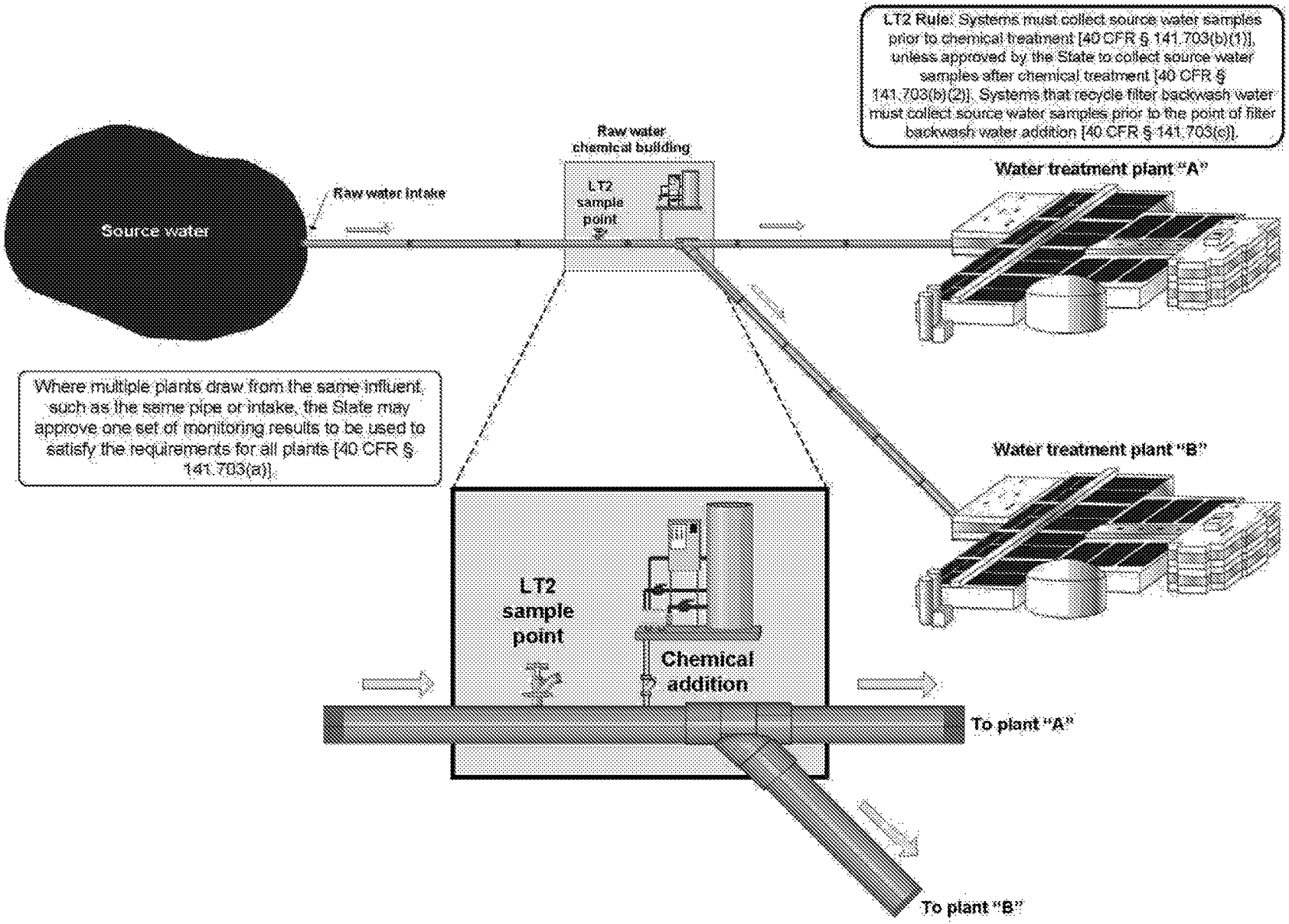


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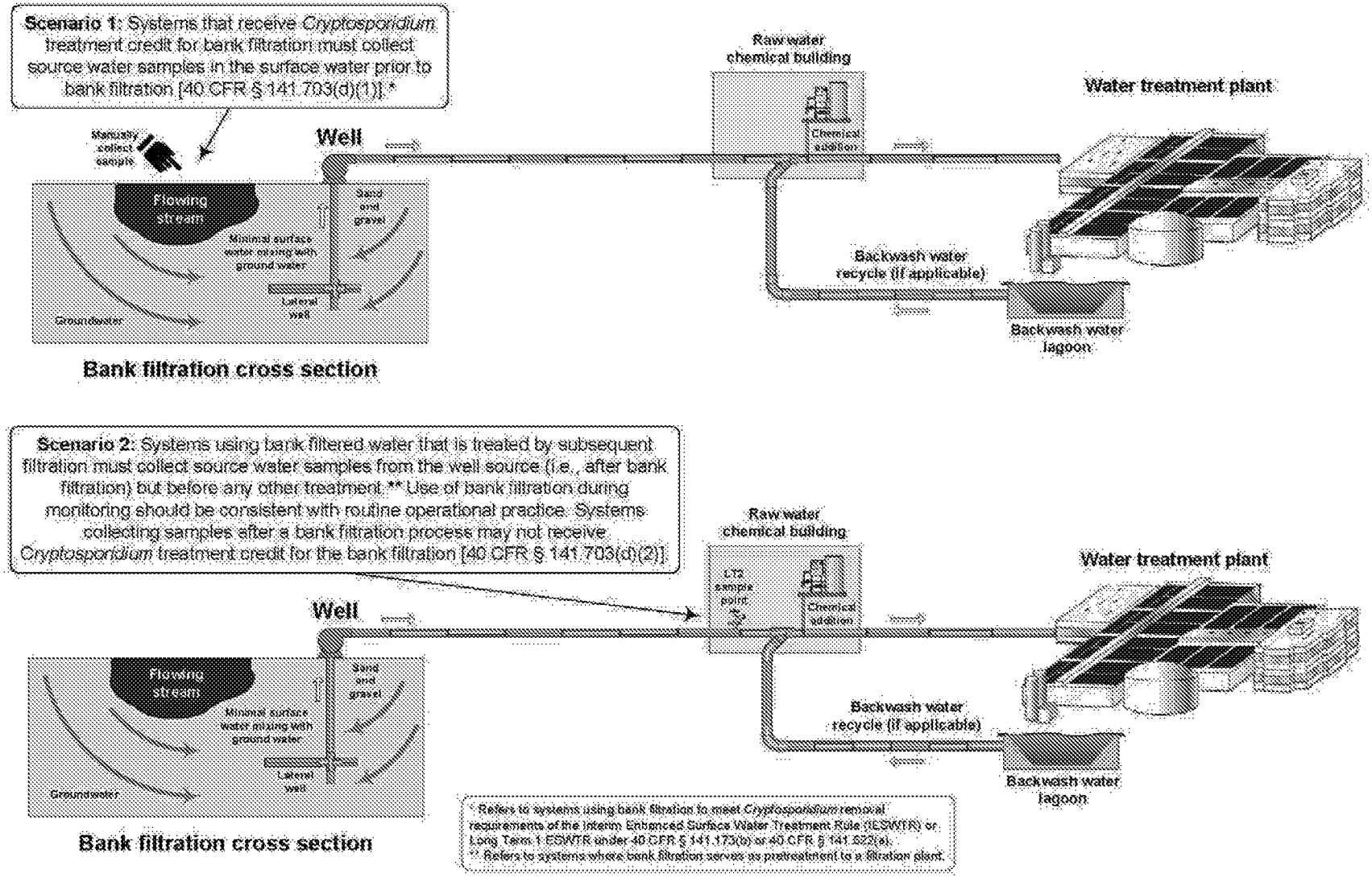


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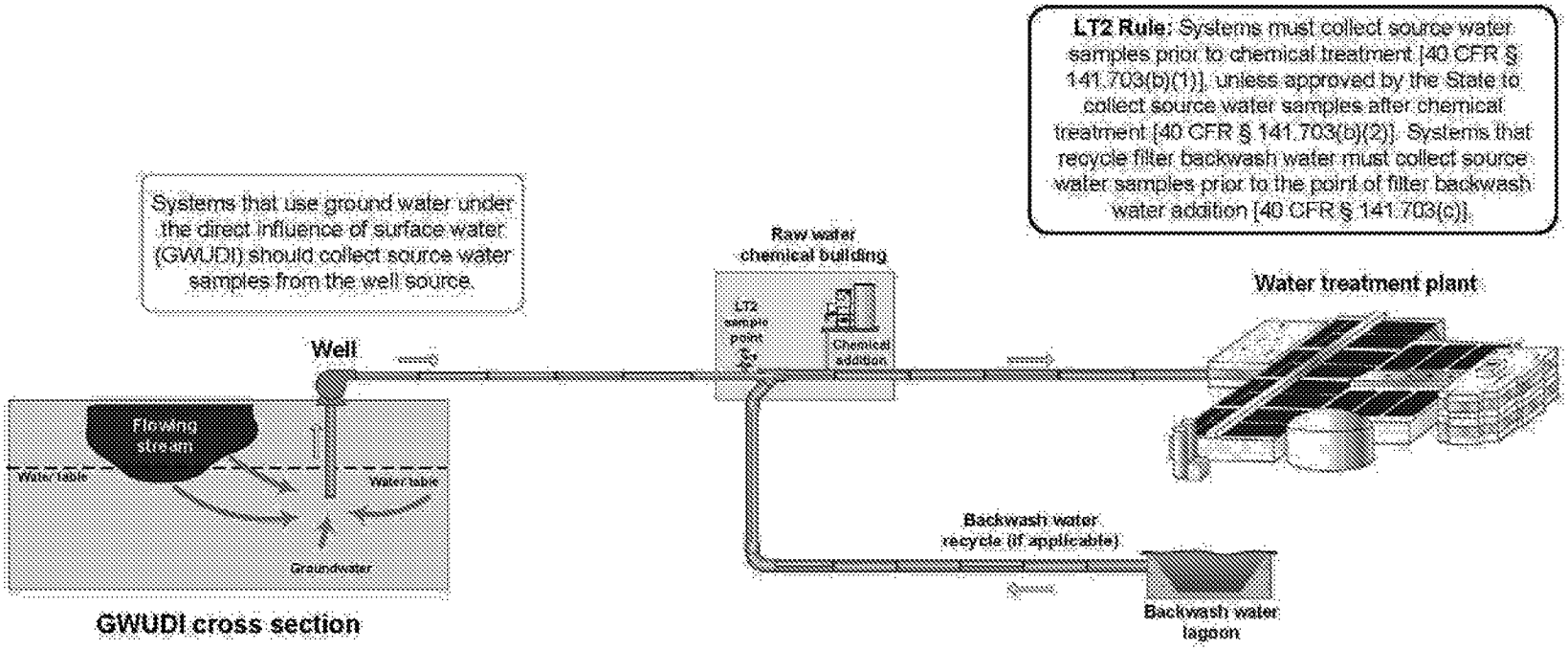
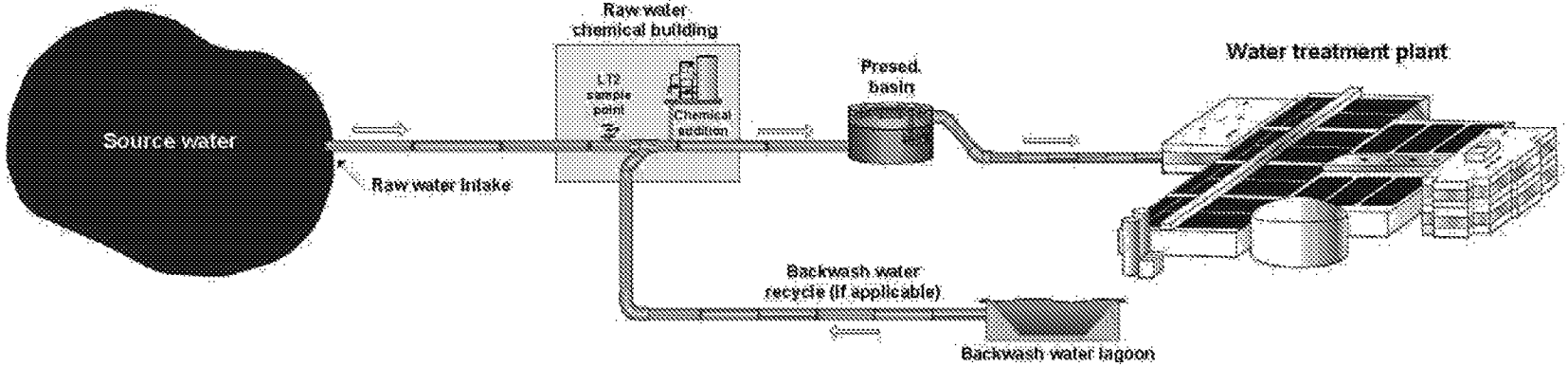


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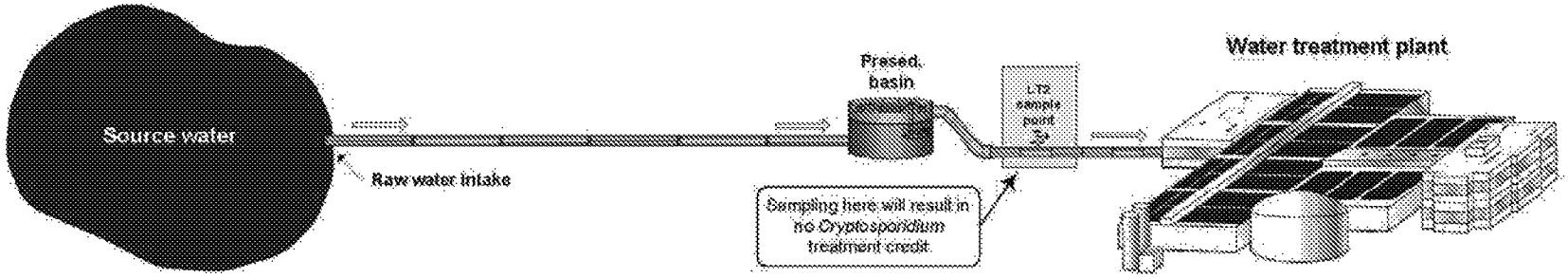


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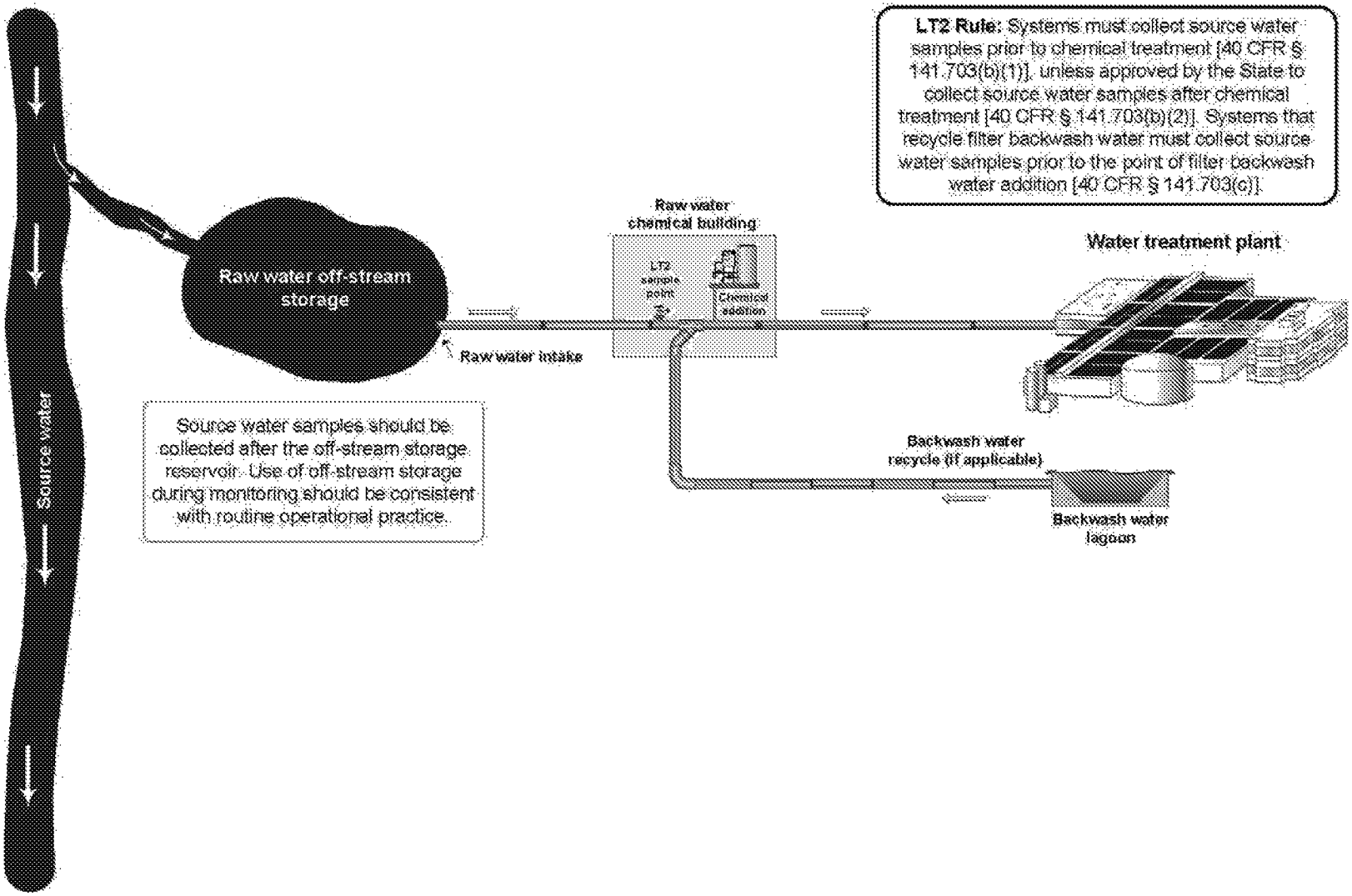


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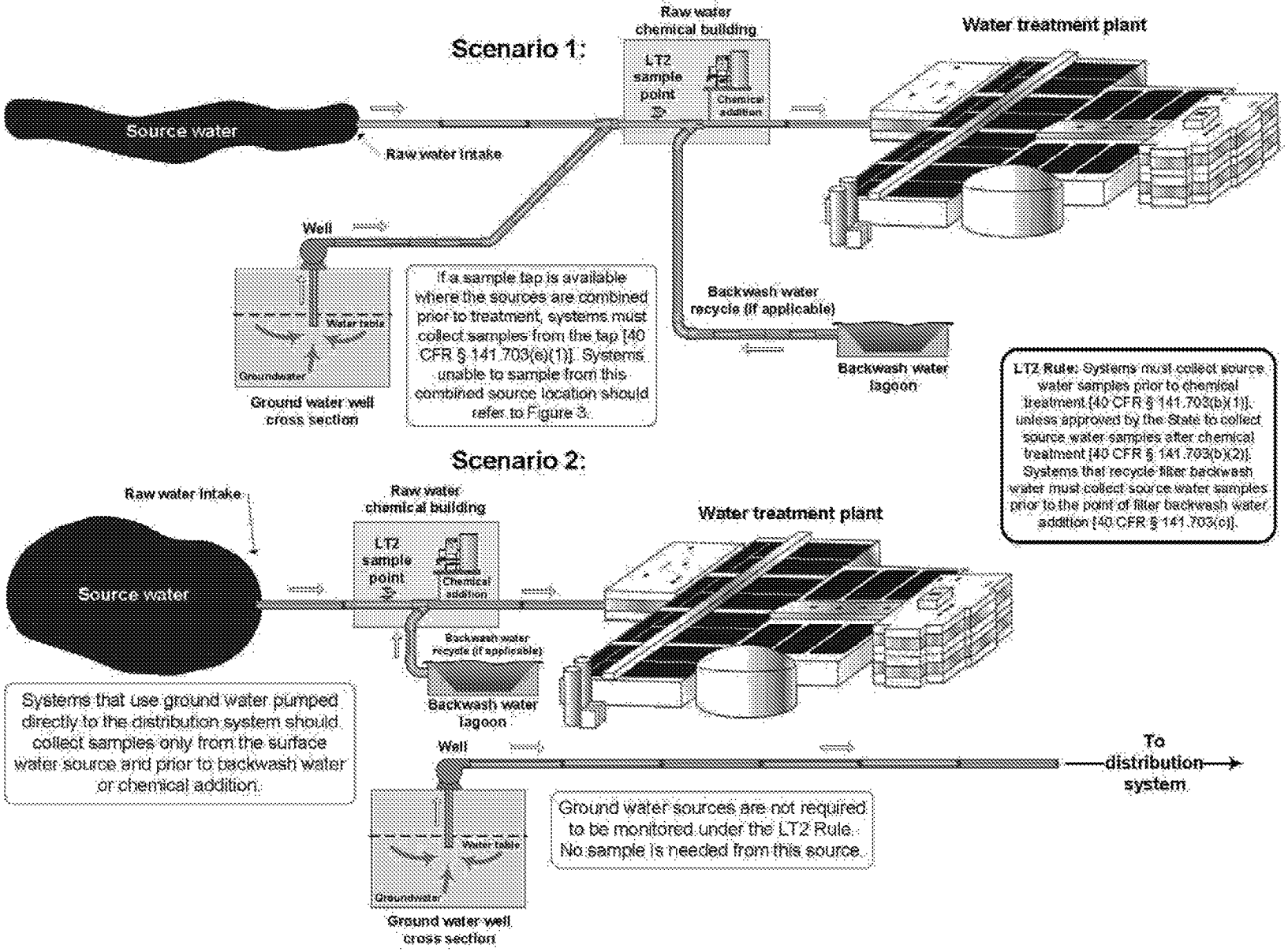


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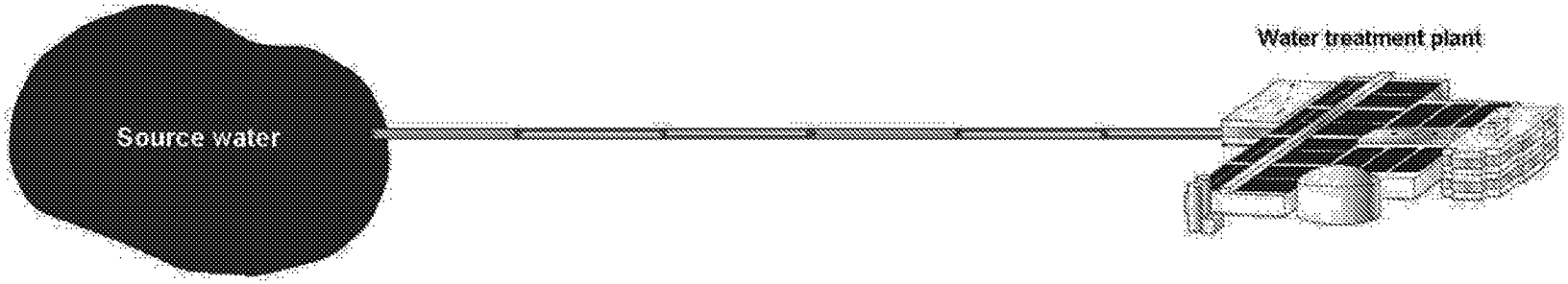
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5. Multiple source waters (show by adding additional sources)



From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 11:01 AM
To: emurphy@cityofflint.com
Subject: FW: Water Supply Sources

Elizabeth,

Below is a link to our website that lists all of surface water systems in Michigan. You will need to scroll down to the bottom of the list to see the listing of supplies using a river as their source. Also, I am not aware of any source water assessment conducted for the Flint River watershed; however, I would like to confirm that. I will let you know asap once I obtain the confirmation.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-9775--,00.html

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, May 01, 2015 9:56 AM
To: gthomas@cityofflint.com
Cc: Busch, Stephen (DEQ)
Subject: Premise plumning
Attachments: Premise Plumbing.doc

Glen,

Based upon our discussion during our April 29th, 2015 site visit, approximately 40-45 commercial/industrial customers were identified as a potential candidate for needing a premise plumbing Water Safety Plan (WSP). Attached is a list of mechanical components within building premise plumbing to assist you in confirming this and/or identifying additional customers that could serve as WSP candidates. Please send us your completed list at your earliest convenience. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

This Document is a Non-Responsive Attachment.

From: Prysby, Mike (DEQ)
Sent: Monday, April 06, 2015 9:00 AM
To: Michael Glasgow
Cc: Rosenthal, Adam (DEQ)
Subject: RE: City of Flint - March Bromate Results

Michael,

The March result is encouraging….we need a copy of the sample result from the sample collected in October of 2014…

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Monday, April 06, 2015 7:24 AM
To: Rosenthal, Adam (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: City of Flint - March Bromate Results

Adam,

Here are the results of our March bromate sampling.

Mike Glasgow
City of Flint Water Plant

From: Prysby, Mike (DEQ)
Sent: Monday, April 13, 2015 4:30 PM
To: Michael Glasgow
Subject: RE: City of Flint March 2015 MOR

Thanks Michael….

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Monday, April 13, 2015 4:21 PM
To: Prysby, Mike (DEQ)
Subject: City of Flint March 2015 MOR

Mike,

Here is the completed MOR for March.

Mike Glasgow
City of Flint Water Plant

From: Prysby, Mike (DEQ)
Sent: Tuesday, February 17, 2015 4:03 PM
To: Howard Croft
Cc: Busch, Stephen (DEQ);Benzie, Richard (DEQ)
Subject: RE: City Water Tech Team

Howard,

After further discussion with ODWMA staff, I am available to participate in the TAC. My main role will be review water system reports and provide comments and/or guidance primarily from a regulatory standpoint. Please keep me informed as to when the first meeting will be held. Finally, I wish to extend my thanks for the invitation to participate in the TAC.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Saturday, February 14, 2015 8:45 AM
To: Prysby, Mike (DEQ)
Subject: City Water Tech Team

Mike,

The City of Flint has contracted with Veolia North America in order to have an additional review of the water system. As part of this review, we are working to develop a Technical Advisory Committee (TAC) that will that will receive reports and interact with the technical staff from Veolia. The City has identified 8 - 12 entities or individuals that we are extending an invitation to participate on this committee.

I would like to extend this invitation to you or your designee to be a representative on the TAC team which we hope to have established by early next week.

I understand that this is short notice but if you would consider the offer and confirm or deny your participation I would greatly appreciate it. We are hoping to announce the names of this team at a Public Works Committee meeting Wednesday February 18th. The details of the first meeting and the ongoing agenda which is anticipated to extend through the implementation of the Karegnondi Water Authority as a water source will also be unveiled next week..

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:24 AM
To: Howard Croft
Cc: Busch, Stephen (DEQ);Rosenthal, Adam (DEQ)
Subject: RE: HC Letter & FAQ's

Howard,

It appears that my edits were not included in the final letter. The 6th paragraph down should be revised such that residents understand the difference between the Locational Running Annual Average (LRAA) and the results from the individual quarter (Feb 2015) ...to avoid possible confusion when they read the DEQ PN template which states that two of the eight sites are above the TTHM standard (this being based on the LRAA). Also, the words "annual average" needs to be replaced with Locational Running Annual Average (LRAA).

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Thursday, March 19, 2015 9:09 AM
To: Brent Wright; Daugherty Johnson; Dayne Walling; donna. cole; gdn2@aol.com; Howard Croft; James Henry; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Nicholas; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green; Elizabeth Murphy; Robert Bincsik; Robert Case; Jason Lorenz; Kelly Rossman-McKinney; Sharon Emery; Gerald Ambrose
Subject: HC Letter & FAQ's

Technical Team Members,

Attached please find the final copy of a letter to the health community along with a Frequently Asked Question list.

These documents are ready for distribution among your peers and others. We anticipate mailing out the actual violation notice at the beginning of next week.

I will email everyone on this list when we determine a date for the next Technical Committee Meeting.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Prysby, Mike (DEQ)
Sent: Friday, May 08, 2015 9:47 AM
To: Howard Croft
Subject: RE: May_Technical Advisory Meeting

Howard,

The May 20th Distribution Practices Seminar that I am registered for has been postponed; thus, I will be available to participate in the TAC meeting on Wed. May 20th in Flint. See you on the 20th.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Monday, May 04, 2015 2:06 PM
To: Brent Wright; Daugherty Johnson; donna. cole; Elizabeth Murphy; gdn2@aol.com; Gerald Ambrose; Howard Croft; James Henry; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green; Michael Sargent
Cc: Natasha Henderson
Subject: May_Technical Advisory Meeting

Technical Advisory team,

We are planning to hold our next advisory meeting on Wednesday May 20th 2:00 pm at City Hall. The focus points of the meeting will be to convey the advancements in the current water quality, the summer implementation plans and timelines, and the latest information on test results.

We continue to offer testing and to look for any residential concerns about the water. I encourage all of the hospital and college representatives to bring forward any recent issues that may have arisen and we will look to discuss those as well as any other situations that we are aware of. I will send out an agenda early next week and we will plan on having a conference line available to call in.

Please send any questions or comments to me if there are items that you would like to see addressed.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043

hcroft@cityofflint.com

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 11:28 AM
To: Bennett, Charles (DEQ);Thomas Hutchings (thutchings@cityofflint.com)
Cc: Kammer, Stephanie (DEQ);Case, Robert;Busch, Stephen (DEQ);'bwright@cityofflint.com'
Subject: RE: PEAS call

Brent investigated the PEAS call and left me a voicemail with his findings. He confirmed that the residue was a previous lime sludge leak and frozen residue still needs to be cleaned up. The source of the sheen was from a previous storm sewer discharge; however, there was no storm sewer discharge this morning and conditions appeared clear. Brent also followed up with the concerned citizen. Brent will provide further follow-up (via e-mail) concerning this PEAS call.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Bennett, Charles (DEQ)
Sent: Thursday, March 19, 2015 10:10 AM
To: Thomas Hutchings (thutchings@cityofflint.com)
Cc: Kammer, Stephanie (DEQ); Prysby, Mike (DEQ); Case, Robert; Busch, Stephen (DEQ)
Subject: PEAS call

Tom, I just spoke with a gentleman that reported a discharge to the Flint River south of Carpenter Rd at Bray. The complainant stated that the material is whitish and may have a sheen also. He said it looks like crews have done some excavating along the bike path near this discharge. Attached are photos that I received a moment ago from the caller.

Also, you may want to contact Brent Wright about this matter as well, since our Drinking Water engineer has contacted him about this also (see attachment). Please let me know what you find.

thanks,
chuck

Charles Bennett, PE
DEQ Water Resources Division
Lansing District Office
BennettC4@michigan.gov
ph 517-284-6659; fax 517-241-3571

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 11:07 AM
To: Daugherty Johnson
Cc: Busch, Stephen (DEQ)
Subject: RE: RE: Flint Water Age map

Daugherty,

Based upon the most recent information provided to us from the city and your consultant, we are comfortable with either size transmission main (20-inch or 24-inch) for the transmission main project. An Act 399 permit (Permit No. W131020) issued March 18, 2013 (expired yesterday) inlcuded 23,550 LF of 24-inch WM, 1068 LF of 8-inch WM and 6800 LF of 8-inch WM. Given the reduced scope (lineal footage) of the project and expired permit...A new Act 399 permit seems more appropriate. Also, if the remaining work in the future (to complete the rest of the project) is completed under a separate contract, then, a separate Act 399 permits needs to be issued for that contract. A revised Act 399 permit application and set of plans (reduced scope) are needed. Assuming no changes in actual location of the proposed watermain and appurtenances, we should be able to expedite the review and issuance permit in a timely manner.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Thursday, March 19, 2015 9:43 AM
To: Prysby, Mike (DEQ)
Subject: Fwd: RE: Flint Water Age map

Hello Mike. Here are the referenced exhibits in the 24 in. main reduction letter

Daugherty

---------- Forwarded message ----------
From: "Mack, Melissa" <MCMack@lan-inc.com>
Date: Mar 19, 2015 9:34 AM
Subject: RE: Flint Water Age map
To: "Daugherty Johnson" <djohnson@cityofflint.com>
Cc:

Hi Duffy,

Please see attached.

Melissa

Melissa C. (Henderson) Mack, PE

Associate, Project Manager

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Thursday, March 19, 2015 6:57 AM
To: Mack, Melissa
Subject: RE: Flint Water Age map

For clarification, I need the exhibits referenced in the letter you sent me discussing the downsizing of the 24 inch transmission main.

On Mar 19, 2015 7:55 AM, "Daugherty Johnson" <djohnson@cityofflint.com> wrote:

Hello Melissa. Could you send the exhibits referenced in the letter. DEQ wants to see them.

Thanks
Duffy

On Mar 15, 2015 5:26 PM, "Mack, Melissa" <MCMack@lan-inc.com> wrote:

You should be able to print to any size. Try 11x17 portrait. I'm attaching again in case the file got corrupt when it was sent last time.

Melissa C. (Henderson) Mack, PE

Associate, Project Manager



2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Friday, March 13, 2015 1:46 PM
To: Mack, Melissa
Subject: RE: Flint Water Age map

I cannot print the map in its entirety. Do I need to scale a specific way?

On Mar 13, 2015 8:54 AM, "Mack, Melissa" <MCMack@lan-inc.com> wrote:

Duffy,

As discussed here is the water age map from January showing the water sample locations.

Thanks,

Melissa

Melissa C. (Henderson) Mack, PE

Associate, Project Manager

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Mack, Melissa
Sent: Thursday, March 12, 2015 1:12 PM
To: Daugherty Johnson; Green, Warren; Matta, Samir
Subject: Re: Flint Water Age map

Duffy,

We heard back from Innovyze. The model file got corrupted, but they are walking us through a fix. We are documenting the process so we'll know what do do if it happens in the future.

We expect to have fixed this afternoon and have the maps to you thereafter.

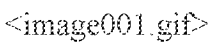
Thank you,

Melissa

Sent from my iPhone

On Mar 11, 2015, at 5:04 PM, Mack, Melissa <MCMack@lan-inc.com> wrote:

> Duffy,
>
> We ran into a technical issue with the model creating the water age maps without the 24-inch highlighted. We have to send the model to Innovyze. They weren't able to help us over the phone. We will get you the maps as soon as possible.
>
> Thanks,
>
> Melissa
>
> **Melissa C. (Henderson) Mack**, PE
>
> Associate, Project Manager



2925 Briarpark Drive, Suite 400 • Houston, TX 77042-3720

T 713.266.6900 **x** 2436 **D** 713.821.0436

www.lan-inc.com • MCMack@lan-inc.com

From: Daugherty Johnson [mailto:djohnson@cityofflint.com]
Sent: Wednesday, March 11, 2015 9:07 AM
To: Mack, Melissa; Green, Warren; Matta, Samir
Subject: Flint Water Age map

Hello Melissa. Would you please send me a copy of the latest Water Age map for Flint.

Thanks

Duffy

From: Prysby, Mike (DEQ)
Sent: Tuesday, March 17, 2015 4:26 PM
To: Howard Croft;Brent Wright;Daugherty Johnson;Dayne Walling;donna. cole;gdn2 @aol.com;James Henry;jmikewright;JoAnne Herman;John O'Brien;Kirk Smith;larry.koehler@mcc.edu;Laura Sullivan;Michael Glasgow;Mike Lane;Natasha Henderson;Norb Birchmeier;Pete Levine;rob.nicholas@veolia.com;Robert Nicholas;rosejo@msu.edu;Russell Hudson;Samir Matta;Warren Green
Cc: Busch, Stephen (DEQ)
Subject: RE: TTHM Draft Letter
Attachments: Draft - Flint Letter to Healthcare Providers.docx

Howard,

I made a few changes to the draft letter...in red (see attached)....mainly to make a more clear distinction between the locational running annual average and the stand-alone quarter (February 2015) results and how it affects the number of sites in compliance. If you have any questions, feel free to call me.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Monday, March 16, 2015 4:28 PM
To: Brent Wright; Daugherty Johnson; Dayne Walling; donna. cole; gdn2@aol.com; Howard Croft; James Henry; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; rob.nicholas@veolia.com; Robert Nicholas; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green
Subject: TTHM Draft Letter

Team,

We have received our notice from the DEQ and our next step is to have this group preview the letter that we intend to send to the public along with it. I have forwarded everyone a draft of the letter for any comments and I am also sending again all of the literature that was forwarded from Mr. Wright of the EPA and DR. Rose of MSU.

We expect to have an additional FAQ ready and out to this group on Tuesday and we anticipate the violation notice going out in the near future.

The **citizens advisory group** will meet again on this Thursday, we are currently looking to have another **Technical Advisory Committee** with this group in early April.

Thank you,
--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

DRAFT Letter to Flint Healthcare Providers

The safety and quality of Flint's water has been in the news for months. We have worked hard to address these issues and have succeeded in bringing Flint's water within the state's safety guidelines on all measures, including TTHM (total trihalomethanes). Excess TTHM triggered the initial letter to our customers earlier this year.

Even though Flint water now meets the standards and is testing significantly below the state's allowable contamination levels, we are required to send out another letter to residents because the *annual* quarterly testing average is not yet below the state's allowable average.

Flint tests for TTHM – a byproduct of the water chlorination process – at eight different sites in the city. When we began using the Flint River as a source in April of 2014, our first round of quarterly testing for TTHM was conducted in May. At that time, only two testing sites were below the allowable maximum; in August, every site was above the allowable maximum.

The City, with the help of LAN engineering, developed an Operation Evaluation Report (OER) which contained an action plan to address the issue. That plan was implemented with steps including upgrading the ozone treatment process at the Water Treatment Plant (WTP), **complete softening,** increasing water main/hydrant flushing to decrease stagnation, small scale testing of treatment to identify areas of improvement, applying overall improvements to the WTP through operational changes and to the distribution system through water circulation modeling

Because the public notice is based on a **locational running** annual average of quarterly results a notice was not required until November, at which time all but one testing **location** was below the allowable levels. **Our most recent testing in February 2015 showed all locations well below state allowable levels; however, the locational running annual average (based on the four most recent quarters – May 2014 – Feb. 2015) results in all but two locations being below the allowable level.** (See the attached graph outlining our progress.)

We have taken many steps to continue to improve the safety and quality of Flint's water, including bringing in international urban water system consultants, Veolia North America, and establishing two advisory committees: a Citizens Advisory Committee, along with a Technical Advisory Committee made up of representatives from the University of Michigan, Michigan State University, Kettering University, Mott Community College, Genesys, McLaren, and Hurley Hospitals along with local health officials including the Genesee Medical Society the Genesee County Public Health Department, the Michigan Department of Environmental Quality and the U.S. Environmental Protection Agency.

We have also established a hotline 810-787-6537 and a place for continuing updates on the city's website cityofflint.com and have encouraged residents who are concerned about their water to report it to us immediately so that we can make arrangements for on-site testing. Although we have been offering this for more than a month, to date only a few residents have requested on-site testing. All residents wishing to have their water tested can call the hotline number or send an email to flintwater@cityofflint.com.

Despite our progress, we are required by law to once again advise residents about what *was* an excess of TTHM in Flint's water system at the eight testing sights last year. The letter – a draft of which is enclosed for your information – includes legally required language recommending that residents who have (severely compromised immune systems, have an infant, or are elderly) should contact their

physician. This is standard language from the U.S. EPA which is included in every water quality or water related report the City publishes, regardless of whether there are specific health or quality concerns, and is used by other municipalities nationwide. We failed to alert you in advance of our original letter we were required to send out earlier this year – and we don't want to make that mistake again. We have enclosed a fact sheet and a list of Frequently Asked Questions in an effort to help you respond to any inquiries you may get from patients.

We recognize that Flint's water system may still be challenged with *quality* issues such as discoloration or odor but we assure you the *safety* of the water meets all state standards. You should also know that the City also publishes its monthly tests for a wide variety of water treatment components, including chloride levels, on its website at cityofflint.com/?page_id=5643.

We urge you to contact the City of Flint Water Treatment Plant with any specific questions or concerns you may have on this issue. We will do our absolute best to get you the answers you need.

Sincerely,

DRAFT

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 12:57 PM
To: emurphy@cityofflint.com
Subject: RE: Water Supply Sources

Elizabeth,

Yes, a source water assessment was completed for the Flint River and a report is available. I will send it to you asap (later today or on Monday).

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, February 06, 2015 11:01 AM
To: 'emurphy@cityofflint.com'
Subject: FW: Water Supply Sources

Elizabeth,

Below is a link to our website that lists all of surface water systems in Michigan. You will need to scroll down to the bottom of the list to see the listing of supplies using a river as their source. Also, I am not aware of any source water assessment conducted for the Flint River watershed; however, I would like to confirm that. I will let you know asap once I obtain the confirmation.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-9775--,00.html

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Thursday, February 12, 2015 11:43 AM
To: 'bwright@cityofflint.com';'rbincsik@cityofflint.com'
Subject: Residential customers

Brent, Rob….

I need Flint's most recent number of active residential service connections as part of updating MDEQ's estimated population served. Also, add in commercial and industrial accounts; however, keep them separate. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Prysby, Mike (DEQ)
Sent: Friday, May 01, 2015 10:01 AM
To: 'rbincsik@cityofflint.com'
Subject: Watermain breaks

Robert,

Based upon the discussion during our April 29th site visit, you have forwarded available information concerning the occurrence (location & date) of watermain breaks in the city of Flint during 2014. Please provide us with a copy of this information at your earliest convenience. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 12, 2015 4:33 PM
To: Mike Glasgow
Subject: distribution WQPs

Good afternoon Mike, we did not receive a 2nd half 2014 water quality parameters in the distribution system for the City of Flint. Please email me a copy when you get this.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Monday, February 09, 2015 1:21 PM
To: Mike Glasgow
Subject: January '15 MOR

Hi Mike, any chance you have your January MOR ready? I need a copy, EPA is asking for some data as they are getting calls. Please send what you have.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Friday, February 27, 2015 9:13 AM
To: Mike Glasgow
Subject: Lead Copper Cert form

Morning Mike, I need your lead/copper cert form – it was due by 1/10/15. I also need your 4th quarter WQPs for 2014. EPA is asking due to your 104 hit on lead. If you can, I need them today.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, March 10, 2015 9:53 AM
To: Michael Glasgow
Subject: RE: City of Flint Water Plant Monitoring Results

Got it, thanks Mike.

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Tuesday, March 10, 2015 9:51 AM
To: Rosenthal, Adam (DEQ)
Subject: City of Flint Water Plant Monitoring Results

Adam,

Good morning, here are the results of our February monthly bromate monitoring, and our first quarter radiological testing.

Mike Glasgow
City of Flint Water Plant

From: Rosenthal, Adam (DEQ)
Sent: Thursday, May 14, 2015 9:50 AM
To: Michael Glasgow
Subject: RE: distribution WQPs

thank you sir.

Adam

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Thursday, May 14, 2015 8:53 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: distribution WQPs

Adam,

Here is the 1st quarter WQP for 2015.

Mike

On Wed, May 13, 2015 at 3:07 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

got it. Now I need the 1st qtr 2015.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, May 13, 2015 11:54 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: distribution WQPs

Adam,

Here are the 2014 WQM parameters during full time plant operation.

Mike

On Tue, May 12, 2015 at 4:32 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Good afternoon Mike, we did not receive a 2nd half 2014 water quality parameters in the distribution system for the City of Flint. Please email me a copy when you get this.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, May 13, 2015 3:08 PM
To: Michael Glasgow
Subject: RE: distribution WQPs

got it. Now I need the 1st qtr 2015.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, May 13, 2015 11:54 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: distribution WQPs

Adam,

Here are the 2014 WQM parameters during full time plant operation.

Mike

On Tue, May 12, 2015 at 4:32 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Good afternoon Mike, we did not receive a 2nd half 2014 water quality parameters in the distribution system for the City of Flint. Please email me a copy when you get this.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

From: Rosenthal, Adam (DEQ)
Sent: Monday, February 09, 2015 2:36 PM
To: Michael Glasgow
Subject: RE: January '15 MOR

ok, thanks.

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Monday, February 09, 2015 2:00 PM
To: Rosenthal, Adam (DEQ)
Subject: Re: January '15 MOR

Adam,

I'm just about finished with it, just finishing up with some of the operational chemical feed data, I will send a pdf copy to you tomorrow when it will be fully complete. Attached is what I have done so far.

Mike

On Mon, Feb 9, 2015 at 1:20 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Hi Mike, any chance you have your January MOR ready? I need a copy, EPA is asking for some data as they are getting calls. Please send what you have.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

From:	Busch, Stephen (DEQ)
Sent:	Tuesday, September 15, 2015 7:21 PM
To:	Wyant, Dan (DEQ);Shekter Smith, Liane (DEQ)
Cc:	Pallone, Maggie (DEQ);Wurfel, Brad (DEQ);Richard Benzie P.E. (BENZIER@michigan.gov)
Subject:	RE: Questions for Director Wyant
Attachments:	NDWAC LCR Work Group Report Final 08 24 2015.pdf

See my responses below in red.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wyant, Dan (DEQ)
Sent: Tuesday, September 15, 2015 6:19 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ)
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: Fwd: Questions for Director Wyant

I will need to respond to this.

Sent from my iPhone

Begin forwarded message:

> **From:** "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
> **Date:** September 11, 2015 at 7:14:12 PM EDT
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
> **Subject: FW: Questions for Director Wyant**
>
> **I will also print for you – see below.**
>
> **From:** Jumana Vasi [mailto:JVasi@mott.org]
> **Sent:** Friday, September 11, 2015 5:29 PM
> **To:** Thelen, Mary Beth (DEQ)
> **Subject:** Questions for Director Wyant
>
> Hi Mary Beth –
>
> Thank you for arranging my call with the Director. He's asked me to send my follow-up questions in writing, so here they are below. Could you please forward them to him?
> Thank you,
> Jumana

Dan –

Thank you so very much for your time this afternoon. Here are the questions we've got concerning Flint drinking water.

- The Lead and Copper Rule requires water systems to obtain prior approval from the State to add a new source of water or make any long-term change in water treatment process prior to implementation. Did the DEQ have any concerns related to the switch from Detroit water to Flint River water in terms of potential increases in corrosion?

Prior to becoming a customer of Detroit in the 1960's, the City of Flint operated its water treatment plant and obtained water from the Flint River. As Detroit was unable to provide a secondary feed to Flint, the City of Flint choose to keep its water treatment plant as an emergency backup. In 2014 service from Detroit was terminated and the City of Flint began using its water treatment plant again. Differences in water quality have long been recognized between treated Lake Huron water obtained from Detroit and Flint's treatment of Flint River water. Whenever community water systems make changes in source water or treatment that could impact corrosion they are required to return to full scale lead and copper monitoring for two six month rounds to demonstrate continued compliance with the action levels. The City of Flint has just completed this monitoring and met the action level.

- The corrosivity of Flint's drinking water seems to be the main contributor to lead levels from residential faucets*. Does the state offer recommendations (treatment options, consumer use guidelines, etc.) for dealing with water that is considered to be "highly corrosive"?

As a water system that serves a population of 50,000 or more, the City of Flint is also required to demonstrate optimized corrosion control in accordance with the lead and copper rule requirements. The City is in the process of installing additional corrosion control treatment measures. Should the City's compliance monitoring exceed the action level in future additional steps would be required following the lead and copper rule requirements.

Customers that participate in the City's lead monitoring are provided a copy of their result and information regarding actions they can take to help limit exposure see page 4 of the linked guidance
http://www.michigan.gov/documents/deq/deq-wb-dwehs-cws-LeadCopperRptConsNotice_294665_7.pdf
Information regarding lead is also included in the City's Annual Consumer Confidence Report (aka Water Quality Report). Below is a link to the City's report covering May – December 2014.

https://www.cityofflint.com/wp-content/uploads/CCR-2014.pdf

- Are other Michigan cities using similarly corrosive water? What steps are they taking to protect residents from lead leaching from their home plumbing systems?

The DEQ Office of Drinking Water of Municipal Assistance oversees more than 1,400 community water systems and nearly 10,000 non-community water systems across Michigan. This oversight includes Lead and Copper Rule requirements as part of the Michigan Safe Drinking Water Act. Systems that exceed action level requirements are required to take action in accordance with lead and copper rule requirements as established by EPA and under the primacy granted to MDEQ for this regulation.

- Is Flint conducting compliance monitoring under the Lead and Copper Rule? If so, why have their test results differed from the Virginia Tech findings?

Flint has certified that it is following the requirements of the Lead and Copper Rule. Flint provides customers bottles and instructions for sampling in accordance with these requirements and obtains a signed statement from customers that these instructions were followed (see link below). Samples are analyzed at a certified lab.
http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf

Virginia Tech has not provided any information to the DEQ regarding its sampling protocols and whether they have followed all requirements of the lead and copper rule.

- What could the city be doing to better educate and protect its residents

The City is already following requirements of the lead and copper rule. However reduction of exposure to lead in drinking water cannot be achieved by regulation alone. Effective elimination of leaded materials in contact with water is a shared responsibility. While the City could undertake a lead service line replacement program, partial lead service line replacement has been shown to exacerbate lead exposure, and many Flint residents are unable to afford replacement of their privately owned portion of the service line.

The DEQ is currently working with the Michigan Department of Health and Human Services to develop a more robust consumer awareness campaign regarding lead exposure through drinking water. We hope the City of Flint will partner with our agencies in this endeavor.

The August "Report of the Lead and Copper Rule Working Group To the National Drinking Water Advisory Council" (attached)discusses an number of other recommendations regarding public education.

Thank you for all of your help. We are really looking forward to having you here next week.

Jumana

*http://flintwaterstudy.org/2015/08/why-is-it-possible-that-flint-river-water-cannot-be-treated-to-meet-federal-standards/

Jumana Vasi
Program Officer, Environment Program
C.S. Mott Foundation
503 S. Saginaw Street
Flint, MI 48503
(810) 766-1714

Report of the Lead and Copper Rule Working Group To the National Drinking Water Advisory Council

FINAL

AUGUST 24, 2015

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Figure 1 – Overview of Recommended Revised Lead and Copper Rule Framework

Abbreviations

AL – Action Level
ALE – Action Level Exceedance
CCR – Consumer Confidence Report
CCT – Corrosion Control Treatment
DWLRP – Drinking Water Lead Reduction Plan
EPA – Environmental Protection Agency
LAL – Lead Action Level
LCR – Lead and Copper Rule
LCRWG – Lead and Copper Rule Working Group
LSL – Lead Service Line
LSLR – Lead Service Line Replacement
LTR LCR – Long Term Revisions to the Lead and Copper Rule
MCLG – Maximum Contaminant Level Goal
mg/L – Milligram per Liter
µg/L – Microgram per Liter
µg/dL – Microgram per Deciliter
NDWAC – National Drinking Water Advisory Council
OGWDW – Office of Ground Water and Drinking Water
OCCT – Optimum Corrosion Control Treatment
OWQP – Optimal Water Quality Parameter
PE – Public Education
pH – Negative log of hydrogen ion molar concentration
PLSLR – Partial Lead Service Line Replacement
POTW – Publicly Owned Treatment Works
POU – Point-of-use Treatment Device
PWS – Public Water System
SAB – Science Advisory Board
SDWA – Safe Drinking Water Act
DWSRF – Drinking Water State Revolving Fund
TT – Treatment Technique
WQP – Water Quality Parameter

Report of the Lead and Copper Rule Working Group to the National Drinking Water Advisory Council

1. Executive Summary

The Lead and Copper Rule Working Group (LCRWG) of the National Drinking Water Advisory Council (NDWAC) has completed its deliberations on issues associated with long term revisions to the Lead and Copper Rule (LCR). This report includes the group's findings and recommendations.

This executive summary provides a brief overview of the report. Details of the findings and recommendations are provided in the body of the report. A list of the members of the working group can be found in Appendix A.

1.1. Charge

The charge to the LCRWG was to provide advice to the NDWAC as it develops recommendations for the U.S. Environmental Protection Agency (EPA) on targeted issues related to long term revisions to the Lead and Copper Rule under the Safe Drinking Water Act (SDWA).

1.2. Findings and Recommendations

The anticipated Long Term Revisions to the Lead and Copper Rule (LTR LCR) is a very important opportunity for removing sources of lead in contact with drinking water and for reducing exposure to lead from drinking water in the meantime. Creative financing and robust public education also are essential.

The LCRWG took the following considerations, among others, into account in making recommendations for revisions to the LCR. A more detailed list of considerations is included in the full report.

There is no safe level of lead. Lead can pose health risks to anyone, but there are heightened risks for pregnant women, infants and young children and other vulnerable populations with both acute and chronic exposures. Effective elimination of leaded materials in contact with water and minimization of exposure to lead in drinking water is a shared responsibility; public water systems (PWSs), consumers, building owners, public health officials and others each have important roles to play. The lack of resources to reduce the sources of exposure in some communities, however, also raises important questions of disparate impact and environmental justice. Thus, creative financing mechanisms will be needed.

The LCR should remain a treatment technique rule, but it can be improved based on the scientific knowledge that has emerged since the current LCR was promulgated. Corrosion control treatment is complicated, and will vary based on specific circumstances in each public water system. Thus, regular updates to guidance by EPA based on the latest science and the creation of a national clearinghouse of information both for the public and for PWSs are needed.

The LCRWG considered but did not quantify the cost implications of its recommendations. An important factor in the group's deliberations was the principle that PWS and state resources should be focused on actions that achieve the greatest public health protection. Recognizing that lead service line (LSL) replacement programs will be costly in some locations, the LCRWG also encourages PWSs to incorporate

anticipated costs into their capital improvement program as appropriate to their situation, and urges states to include the costs of LSL replacement in their criteria for allocation of Drinking Water State Revolving Funds.

The LCRWG specifically recommends that EPA revise the LCR to:

- Require proactive lead service line (LSL) replacement programs, which set replacement goals, effectively engage customers in implementing those goals, and provide improved access to information about LSLs, in place of current requirements in which LSLs must be replaced only after a lead action level (AL) exceedance;
- Establish more robust public education requirements for lead and LSLs, by updating the Consumer Confidence Report (CCR), adding targeted outreach to consumers with lead service lines and other vulnerable populations (pregnant women and families with infants and young children), and increasing the information available to the public;
- Strengthen corrosion control treatment (CCT), retaining the current rule requirements to re-assess CCT if changes to source water or treatment are planned, adding a requirement to review updates to EPA guidance to determine if new scientific information warrants changes;
- Modify monitoring requirements to provide for consumer requested tap samples for lead and to utilize results of tap samples for lead to inform consumer action to reduce the risks in their homes, to inform the appropriate public health agency when results are above a designated household action level, and to assess the effectiveness of CCT and/or other reasons for elevated lead results;
- Tailor water quality parameters (WQPs) to the specific CCT plan for each system, and increase the frequency of WQP monitoring for process control;
- Establish a health-based, household action level that triggers a report to the consumer and to the applicable health agency for follow up;
- Separate the requirements for copper from those for lead and focus new requirements where water is corrosive to copper; and
- Establish appropriate compliance and enforcement mechanisms.

Although leadership by EPA is essential, reduction of exposure to lead in drinking water cannot be achieved by EPA regulation alone. Thus, this report also includes recommendations for renewed commitment, cooperation and effort by government at all levels and by the general public. We urge EPA to play a leadership role not only in the revisions to the LCR but also in educating, motivating, and supporting the work of other EPA offices; federal state and local agencies and other stakeholders. (See Section 4: Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water.)

2. Considerations and Background Information

2.1. Considerations in Preparing this Report

The members of the LCRWG brought different perspectives and expertise to the preparation of this report. Although not all members agreed with each and every consideration listed below, the LCRWG took one another's perspectives into account and, thus, the following concepts collectively underlie the recommendations in this report. Additional detail is provided in the recommendations section below.

- There is no safe level of lead. Lead can pose health risks to anyone, but there are heightened risks for pregnant women, infants and children with both acute and chronic exposures.
- Lead-bearing plumbing materials in contact with drinking water pose a risk at all times (not just when there is a lead action level (LAL) exceedance).
- Effective elimination of leaded materials in contact with water and minimization of exposure to lead in drinking water is a shared responsibility. PWSs, consumers, building owners, public health officials and others each have important roles to play.
- The LTR LCR is an important opportunity for removing sources of lead in contact with drinking water and for reducing exposure to lead from drinking water in the meantime. However, additional action beyond the scope of the Safe Drinking Water Act is needed. Removing lead from drinking water systems also will require renewed commitment, cooperation and effort by government at all levels and by the general public. (See Section 4: Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water.)
- Proactive action is needed to remove the sources of lead, with appropriate incentives both for PWSs and their customers needed to encourage such action.
- Successful implementation of the revised LCR can only take place in the context of a more holistic effort on lead in water issues involving stakeholders other than just EPA and water systems, and resources beyond those able to be brought to bear by water systems. Partnerships at all levels are essential. Recognizing that public agency budgets are tighter than ever, greater engagement by local health agencies, those funding housing programs, and those involved in permitting and construction is particularly important.
- Creative financing mechanisms also will be needed to achieve this goal for all individuals potentially exposed to lead, regardless of race, ethnicity or income. Leaving a lead service line in place because a low-income resident does not have the means to pay raises serious questions of disparate impact and environmental justice.
- The public plays a critical role in protecting their families' health by reducing exposure to lead and copper, and informing the public enables them to be effective participants in implementing their share of the responsibility.
- The issues associated with lead and copper are very different and warrant more separate attention than has been the case in the past.
- The LCR should remain a treatment technique rule, but it can be improved.
- Corrosion control treatment (CCT) is complex, dynamic, and varies based on the circumstances in each PWS. The understanding of the challenges with CCT has improved in recent years, but questions still remain.
- Attention to unintended consequences is important generally and, in particular, with respect to CCT.
- The presence of lead-bearing materials in premise plumbing raises issues about what systems can implement in customers' homes.
- Attention to what States are able to oversee and enforce also is important.
- PWS and state resources should be focused on actions that achieve the greatest public health protection.

2.2 Regulatory Background and Formation of the NDWAC Lead and Copper Work Group

Under the Safe Drinking Water Act EPA sets public health goals and enforceable standards for drinking water quality.[1] The Lead and Copper Rule is a treatment technique rule. Instead of setting a maximum contaminant level (MCL) for lead or copper, the rule requires (PWSs) to take certain actions to minimize lead and copper in drinking water, to reduce water corrosivity and prevent the leaching of these metals from the premise plumbing and drinking water distribution system components and when that isn't enough, to replace lead service lines under their control. The current rule sets an action level (AL), or concentration, of 0.015 mg/L for lead and 1.3 mg/L for copper. An AL is not the same as an MCL. An MCL is based on health effects and feasibility; whereas an action level is a screening tool for determining when certain treatment technique actions are needed.

The LCR action level is based on the practical feasibility of reducing lead through controlling corrosion. In the LCR, if the AL is exceeded in more than ten percent of tap water samples collected during any monitoring period (i.e., if the 90th percentile level is greater than the AL), it is not a violation, but triggers other requirements that include water quality parameter monitoring, corrosion control treatment (CCT), source water monitoring/treatment, public education, and lead service line replacement (LSLR). The rule also requires States to report the 90th percentile for lead concentrations to EPA's Safe Drinking Water Information System (SDWIS) database for all water systems serving 3,300 or more persons, and for those systems serving fewer than 3,300 persons only when the lead action level (LAL) is exceeded. States only report the 90th percentile for copper concentrations in SDWIS when the copper action level is exceeded in water systems regardless of the size of the service population. Public education requirements ensure that drinking water consumers receive meaningful, timely, and useful information that is needed to help them limit their exposure to lead in drinking water.

Copper is a common material used in household plumbing and drinking water service lines in the United States. Copper is an essential nutrient in small amounts; however, acute ingestion of excess copper in drinking water has been associated with adverse health effects, including acute gastrointestinal symptoms such as abdominal discomfort, nausea, and vomiting.

The SDWA requires EPA to set MCLGs at concentration levels at which no known or anticipated adverse effects would occur, allowing for an adequate margin of safety. EPA proposed an MCLG of 1.3 mg/l for copper in 1985, and finalized that MCLG in 1991 when the LCR was promulgated. The LCR set the action level (AL) for copper, the level at which treatment technique actions are triggered for the water system, equal to the MCLG. The AL is triggered if the 90th percentile level of water samples is exceeded. All community water systems must report the 90th percentile level and the number of samples that exceeded the 90th percentile in their Consumer Confidence Reports.

In early 2004, EPA began a wide-ranging review of the implementation of the LCR to determine if there was a national problem related to elevated levels of lead in drinking water. As part of its national review, EPA collected and analyzed lead concentration data and other information, carried out a review of implementation in States, held four expert workshops to discuss elements of the regulations, and worked to understand local and State efforts to monitor for lead in school drinking water, including a national meeting to discuss challenges and needs. EPA released a Drinking Water Lead Reduction Plan (DWLRP) in March 2005. This plan outlined short-term and long-term goals for improving implementation of the

[1] EPA establishes national primary drinking water regulations (NPDWRs) under SDWA. NPDWRs either establish a feasible maximum contaminant level (MCL) or a treatment technique "to prevent known or anticipated adverse effects on the health of persons to the extent feasible."

LCR. The plan can be found at the following web address:
http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/lead_review.cfm

In 2007, EPA promulgated regulations, which addressed the short-term revisions to the LCR that were identified in the 2005 DWLRP. These requirements enhanced the implementation of the LCR in the areas of monitoring, treatment, LSLR, public education, and customer awareness. These revisions were intended to better ensure drinking water consumers receive meaningful, timely, and useful information needed to help them limit their exposure to lead in drinking water.

A number of Safe Drinking Water Act (SDWA) amendments aim to reduce lead in drinking water by limiting the amount of allowable lead in plumbing materials that come into contact with drinking water. In 1986, the SDWA was amended to prohibit the "use of any pipe, any pipe or plumbing fitting or fixture, any solder, or any flux, in the installation or repair of (i) any public water system; or (ii) any plumbing in a residential or non-residential facility providing water for human consumption, that is not lead free". Lead Free was defined as solder and flux with no more than 0.2% lead and pipes with no more than 8% lead.

Congress again amended the SDWA in 1996, to prohibit the introduction into commerce of any pipe, pipe or plumbing fitting or fixture that is not lead free and to also require pipes, pipe or plumbing fittings or fixtures be in compliance with 3rd party lead leaching standards. These provisions ensure that only products meeting the lead free definition are sold in the U.S. and that pipes, pipe or plumbing fittings or fixtures are certified to be lead free.

The Reduction of Lead in Drinking Water Act of 2011 revised the maximum allowable lead content from not more than 8% to not more than a weighted average of 0.25% lead and included a calculation procedure for determining the weighted average; further reducing the amount of lead in contact with drinking water. It also eliminates the federal requirement to comply with the lead leaching standard and included exemptions from the lead free definition for plumbing devices that are used exclusively for non-potable services and also for specific plumbing devices such as toilets, bidets and urinals. The Community Fire Safety Act of 2013 further amended the SDWA to add fire hydrants to the list of exempted plumbing devices.

EPA has continued to work on the long-term issues that required additional data collection, research, analysis, and full stakeholder involvement, which were identified in the 2005 DWLRP and the 2007 rule revisions. This action is referred to as the LCR Long-Term Revisions (LTR). The LCR LTR would apply to all community water systems (CWSs) and non-transient non-community water systems (NTNCWSs). In this report, the term public water system (PWS) is meant to refer to both of these categories but not to transient non-community water systems.

Seeing the need for additional input on potential revisions to the Lead and Copper Rule, EPA requested that the National Drinking Water Advisory Committee (NDWAC) form the Lead and Copper Rule Working Group (LCRWG) to consider several key questions for the LCR LTR, taking into consideration previous input. The LCRWG met seven times in 2014 and 2015 to produce this report, and sought input from the NDWAC in advance of the last meeting to understand and address questions the NDWAC might have about the working group's recommendations.

A list of members of the working group is provided in Appendix A. This report was approved by the LCRWG, with one dissent.

3. Recommendations for Revisions to the Lead and Copper Rule

The long term revisions to the LCR is an important opportunity for removing sources of lead in contact with drinking water and for reducing exposure to lead from drinking water in the meantime. Creative financing and robust public education also are essential.

The LCRWG offers the following recommendations, based on information provided to the work group and on the work group's own deliberations. The LCRWG considers these recommendations to be an integrated package, not a menu of choices from which some recommendations can be selected and combined with others. This package reflects a concerted attempt to strengthen public health protection, which includes targeting the resources available to PWSs for the greatest public health value. While individual members might differ on specific recommendations, the work group (with one dissent) agrees that this package of recommendations constitutes an improvement over the current LCR.

The LCRWG carefully considered the information and questions posed by EPA in a white paper prepared for the working group. In its deliberations, the LCRWG came to the conclusion that the lessons learned from the implementation of the current LCR warranted a fresh look at the premises of the regulation. To truly solve the problem of exposure to lead in drinking water, the LCRWG concluded that lead-bearing materials should be removed from contact with drinking water to the greatest degree possible, while minimizing the risk of exposure in the meantime. That premise has led to a different paradigm for a revised LCR and, thus, to a somewhat different set of assumptions than underlay questions posed to the working group.

The diagram on page 12 illustrates the conceptual framework of the recommendations that follow.

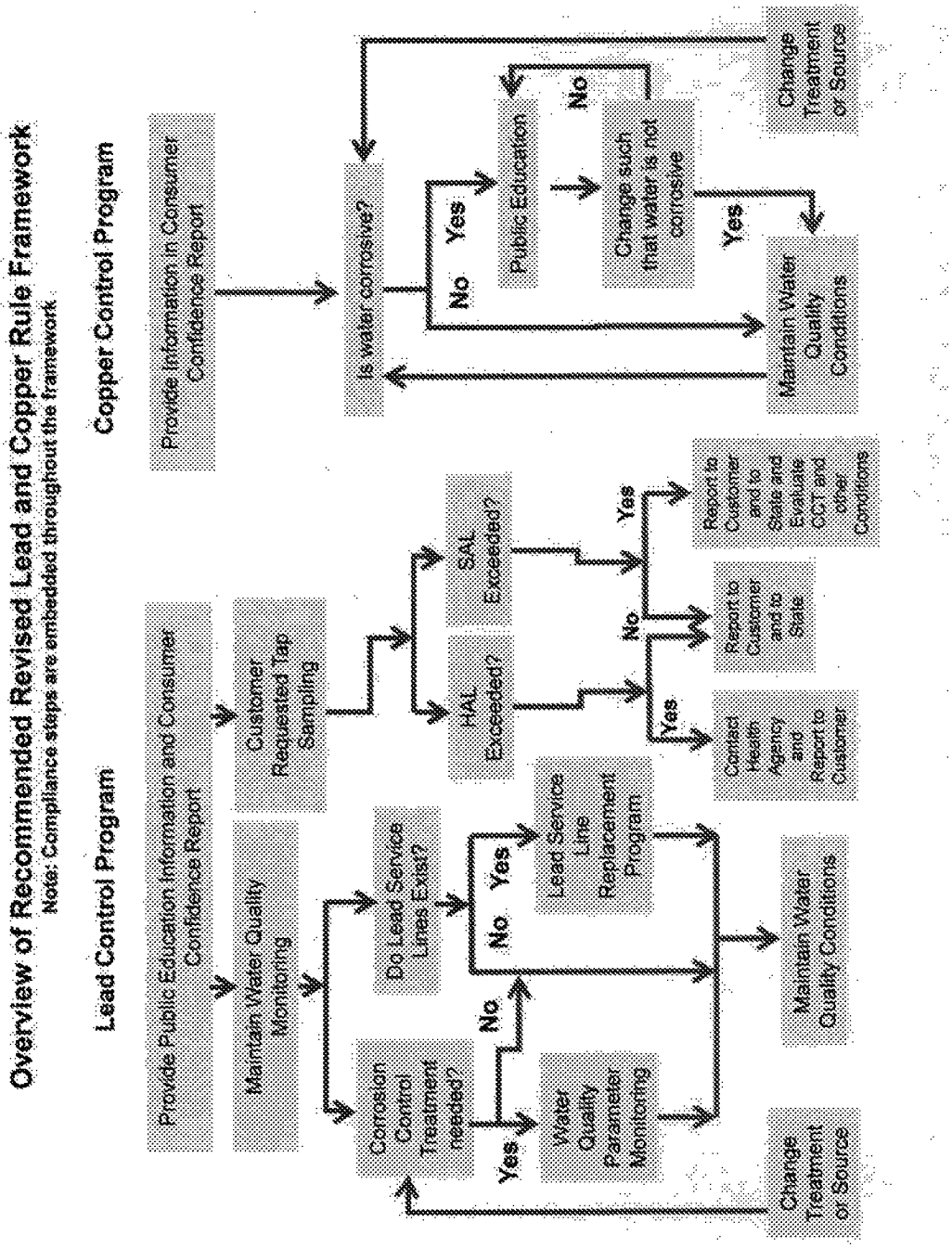
The LCRWG specifically recommends that EPA revise the LCR to:

- Require proactive LSL replacement programs, which set replacement goals, effectively engage customers in implementing those goals, and provide improved access to information about LSLs, in place of current requirements in which lead service lines (LSLs) must be replaced only after a lead action level (AL) exceedance and CCT;
- Establishes more robust public education, by creating a national clearinghouse of information for the public and templates for PWSs, by updating the Consumer Confidence Report, adding targeted outreach to consumers with lead service lines and other vulnerable populations (pregnant women and families with infants and young children), and increasing the information available to health care providers and the public;
- Strengthen corrosion control treatment (CCT), retaining the current rule requirements to re-assess CCT if changes to source water or treatment are planned, adding a requirement to review updates to EPA guidance to determine if new scientific information warrants changes;
- Modify monitoring requirements to provide for consumer requested tap samples for lead and to utilize results of tap samples for lead to inform consumer action to reduce the risks in their homes, to inform the appropriate public health agency when results are above a designated household action level, and to assess the effectiveness of CCT and/or other reasons for elevated lead results;
- Tailor water quality parameters to the specific CCT plan for each system, and increases the frequency of WQP monitoring for process control;

- Establish a health-based, household action level that triggers a report to the consumer and to the applicable health agency for follow up;
- Separate the requirements for copper from those for lead and focus new requirements where water is corrosive to copper; and
- Establish appropriate compliance and enforcement mechanisms.

Although leadership by EPA is essential, reduction of exposure to lead in drinking water cannot be achieved by EPA regulation alone. Thus, this report also includes recommendations for renewed commitment, cooperation and effort by government at all levels and by the general public. We urge EPA to play a leadership role not only in the revisions to the LCR but also in educating, motivating, and supporting the work of other EPA offices; federal, state and local agencies and other stakeholders. (See Section 4: Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water.)

Figure 1


Overview of Recommended Revised Lead and Copper Rule Framework
Note: Compliance steps are embedded throughout the framework.
Lead Control Program
Copper Control Program
Provide Public Education Information and Consumer Confidence Report
Maintain Water Quality Monitoring
Corrosion Control Treatment needed?
Yes
No
Water Quality Parameter Monitoring
Change Treatment or Source
Do Lead Service Lines Exist?
No
Yes
Lead Service Line Replacement Program
Maintain Water Quality Conditions
Customer Requested Tap Sampling
HAL Exceeded?
SAL Exceeded?
Yes
No
Contact Health Agency and Report to Customer
Report to Customer and to State
Report to Customer and to State and Evaluate CCT and other conditions
Provide Information in Consumer Confidence Report
Is water corrosive?
No
Yes
Public Education
Change such that water is not corrosive
No
Yes
Maintain Water Quality Conditions
Change Treatment or Source

3.1. Replace Lead Service Lines[2]

Removing the sources of lead in drinking water should be a national goal. More proactive action than has taken place to date is needed to achieve it.

Although success in achieving this goal will require a concerted effort by many and can not be accomplished solely through the authorities provided under the Safe Drinking Water Act, revisions to the Lead and Copper Rule are an important component to achieving this goal and should be structured accordingly. [See Section 4 for recommendations that complement revisions to the LCR.]

The existing LCR has not created sufficient incentives to fully replace LSLs and other sources of lead , because LSL replacement is only required when the lead AL has been exceeded and optimizing CCT is insufficient to bring a system back under the action level. Systems that do not exceed the lead AL will never have to implement a LSL replacement program. Further, the link to action level exceedance does not allow adequate time for a well-planned LSLR program, and a significant unintended consequence where systems have had to implement a LSL replacement program quickly has been an increase in partial LSL replacement.

EPA asked the Science Advisory Board (SAB) to evaluate the current scientific data regarding the effectiveness of PLSLR and the review centered around five issues: (1) associations between PLSLR and blood lead levels in children; (2) lead tap water sampling data before and after PLSLR; (3) comparisons between partial and full LSLR; (4) PLSLR techniques; and (5) the impact of galvanic corrosion. The SAB found that the quantity and quality of the available data are inadequate to fully determine the effectiveness of PLSLR in reducing drinking water lead concentrations. The small number of studies available had major limitations (small number of samples, limited follow-up sampling, lack of information about the sampling data, limited comparability between studies, etc.) for fully evaluating PLSLR efficacy.

While recognizing the limits to current data, the SAB concluded that PLSLRs have not been shown to reliably reduce drinking water lead levels in the short-term, ranging from days to months, and potentially even longer. Additionally, PLSLR is frequently associated with short-term elevated drinking water lead levels for some period of time after replacement, suggesting the potential for harm, rather than benefit during that time period. The available data suggest that the elevated tap water lead levels tend to increase then gradually stabilize over time following PLSLR, sometimes at levels below and sometimes at levels similar to those observed prior to PLSLR. The SAB also concluded that in studies comparing full LSLR versus PLSLR, the evaluation periods were too short to fully assess differential reductions in drinking water lead levels. However, the SAB explained that full LSLR appears generally effective in achieving long-term reductions in drinking water lead levels, unlike PLSLR. Both full LSLR and PLSLR generally result in elevated lead levels for a variable period of time after replacement. The limited evidence available suggests that the duration and magnitude of the elevations may be greater with PLSLR than full LSLR.

Taking all of these considerations into account, the LCRWG has concluded that an effective framework for replacement of LSLs would include the following and, thus, the LCR should be revised accordingly:

[2] 40 CFR 141.2 defines: *"Lead service line* means a service made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line."

- Requiring all PWSs to establish a LSL replacement program that effectively informs and engages customers to share appropriately in fully removing LSLs, unless they can demonstrate that LSLs are not present in their system;
- Modifying the definition of lead service lines to include any service line where any portion, including a lead pigtail, gooseneck or other fitting, is made of lead;
- Clear guidance, case studies, and templates for LSL replacement programs, including a toolkit of ideas for creative financing strategies;
- Targeted outreach to customers with LSLs, with information about the risks of lead exposure, an offer to test a tap sample, and information about and encouragement to participate in the LSL replacement program;
- Dates by which systems should have met interim goals and completed replacement of all LSLs and PLSLs, without penalty to PWSs for those homeowners who refuse to participate in the replacement program as long as the PWS has made a meaningful effort to work with such a homeowner;
- Creating incentives for understanding where LSLs and PLSLs exist, while making action on full replacement, rather than on investigation of the location of LSLs and PLSLs the priority;
- Maintaining ongoing-outreach to homeowners where LSLs or PLSLs still exist;
- Implementation of standard operating procedures (SOPs), either from EPA guidance or tailored to the system, that helps define operations that disturb LSLs and practices to minimize disturbance and consumer exposure to lead;
- Stronger programs to educate consumers, and to provide test results of tap samples at the request of consumers;
- Focus efforts on action to replace LSLs rather than on the time and expense of upfront plan approval and on using simplified reporting to the states so they would only need to intervene when problems arise; and
- Requirements that provide strong encouragement for full LSL replacements, with the understanding that there may be justifiable exceptions and that those exceptions would occur only after the efforts outlined in the recommendations below on the part of the PWS to work with customers to complete a full LSL replacement. Such exceptions might include emergency repairs where property owners have refused to participate in a full LSL replacement; during a main replacement project; or when a sufficiently high percentage of property owners participate in an area-wide LSL replacement project to justify replacing LSLs to the property lines of those who do not participate at the time. Revisions to the LCR should include options for risk management to occupants of those properties with remaining, partial lead service lines, e.g. additional sampling, filters, dielectrics to reduce the risk of galvanic corrosion, plastic piping, aggressive premise flushing, etc.

3.1.1. Update Inventories and Improve Access to Information about Lead Service Lines

Updating and improving access to information about the location of both full and partial lead service lines is both essential to ensuring LSLs are replaced and important for successful, proactive outreach to customers who are most likely to have a LSL.

The LCRWG recommends combining:

1) The presumption that a service line put in place prior to the date when lead service lines were prohibited has leaded materials unless the PWS has information to confirm that it not, with

2) Providing credit to a PWS toward its replacement goals for demonstrating that a service line presumed to include lead does not have leaded materials.

This approach is intended to create incentives for prompt action to develop an accurate inventory of LSLs and PLSLs in part by being overly conservative initially on the potential existence of LSLs, time to organize an effective replacement program, and an opportunity to take action to replace LSLs rather than devoting time and resources on planning documents that must be approved by the primacy agency.

The LCRWG recognizes that PWSs vary in the amount of information they have about the location of full and partial LSLs. EPA should take the impact on small and medium systems into account when developing the proposed rule.

The LCRWG also recognizes that the current definition of a lead service line exempts a service line that has a lead pigtail or gooseneck or other fitting but is otherwise not made of lead. We recommend that the LCR be revised to remove this exemption since a lead pipe, even if only a small portion, poses a sufficiently similar risk as a full lead service line. Because utilities may not know where these portions are and may not be able to locate them without excavating, we recommend that the presumption described above not apply to lines where the utilities do not have information or are unaware of their use. Finally, we recommend that these fittings be replaced when they are encountered during excavations and that the applicable operations and customer engagement requirements described in the next section apply.

In addition, the LCRWG recommends that all PWSs should establish a clear mechanism for customers to access information on LSL locations (at a minimum). Detailed public education recommendations for both lead and copper follow in separate sections. With respect to information about LSLs, PWSs should:

- Have outreach materials that indicate that property specific information is available.
- Inform customers who may have LSLs about the risks of partial line replacement, who is responsible for paying for replacing the service line, and the legal basis of that determination.
- Provide information it has about LSLs to existing home owners and residents on request.
- Provide information to realtors, home inspectors, and potential home buyers on request
- Communicate that this information is subject to disclaimer for accuracy based on information available to the PWS.
- Develop a system to track LSL replacement.

Where a service line serves multiple dwellings or places such as schools or child care centers that have many children, EPA should establish a formula for giving an extra weight or numerical count to these

lines in the initial inventory to recognize the additional children that would be affected and effectively prioritize replacement of these LSLs.

3.1.2. Establish Active LSL Replacement Programs

Proactive LSL replacement programs by PWSs and their customers are key to moving to a future in which lead is not in contact with drinking water. To accomplish this, the LCRWG recommends replacing the current regulations, in which LSL replacement is required only if a PWS has a lead AL exceedance and after the PWS takes action to operate CCT, because this has not resulted in the complete replacement of many LSLs across the country. [3]

Instead, a revised LCR should include a requirement that all PWSs with lead service lines prepare and implement a LSL replacement program, along with a combination of changes to the regulatory approach described in this report and supportive actions by other public and private agencies, customers and other stakeholders. Taking this approach has the advantages of making replacement of LSLs something all systems do and of establishing programs that are put in place in an organized and measured way.

Supportive actions include increased funding of federal lead risk reduction programs under the Department of Housing and Urban Development (HUD) to help fund customer-owned portions of LSLs and to consider federal tax deductions for this purpose. Additionally, states should pass legislation requiring inspection, disclosure and/or replacement of LSLs on sale of property, and when lines have been disturbed as part of a renovation. Details on these and other ideas are included in Section 4 of this report.

The LCRWG recommends that EPA include the following revisions to the LCR:

1. *Goal:* PWSs will work with their customers to implement full replacement of all lead service lines in their service areas according to the milestones outlined in Table 1. Revisions to the LCR should maximize the likelihood of achieving this goal, consistent with the recommendations in this section. EPA should urges PWSs to work with their customers to replace LSLs in their service areas more quickly, while recognizing that the recommended approach of replacing LSLs in all PWSs with LSLs adds a new and potentially costly requirement for utilities and their customers with LSLs who currently are not and may not ever be triggered into a LSLR program under the current rule.

2. *Interim Milestones:* PWSs that identify LSLs in their inventory should be required to perform targeted outreach to customers on the inventory of LSLs and to work with them to replace LSLs according to a sequence of three-year milestones,[4] beginning 36 months after the effective date of a revised LCR. Milestones would be set at a faster pace in earlier years and would recognize progress may be more difficult to achieve in later years with those LSLs that remain at that time. Table 1provides an illustration of this concept. PWSs should be encouraged to contact a larger number of homeowners than needed for compliance, since some homeowners may fail to reply or may refuse to participate. If replacement goals are not met, the revised LCR should require the PWS to take additional actions intended to enhance interest in and incentives for customer participation in full LSL replacement. The details of this approach should be determined by EPA with the intent of the LCRWG being that the PWS be given the flexibility to choose among

[3] EPA estimates that there were approximately 10.5 million LSLs in 1988 before the promulgation of the LCR and approximately 7.3 million LSLs now.
[4] Three years is a standard reporting timetable for drinking water regulations.

options that are appropriate for the size and type of ownership of the system and that the number of required efforts would increase over time if replacement goals are not met. EPA should seek to add to the initial list of options suggested in Table 2 to ensure a robust menu for PWSs to choose from (again considering system size and type of ownership) to avoid a situation where a PWS is forced into specific actions; and EPA should set the number of required efforts with consideration for the number and feasibility of choices provided.

3. *Replacement Credit:* The following actions can be counted toward the cumulative replacement requirement:

   - Full LSL replacement
   - Replacement of lead pigtail where the pigtail is the only leaded material on the service line
   - Confirmation that an LSL included in the initial inventory is not lead.

   PLSLR will not be counted toward this requirement. Lack of response or refusal to participate by the customer also will not count toward replacement milestones.

4. *Targeted Outreach*: EPA should create a list of options in the rule of approved outreach methods for contacting customers with LSLs and inviting them to participate in the utility's LSLR program. Table 2 provides an initial list of options for such resident engagement, along with additional system policies and other actions if milestones aren't met. EPA also should provide guidance and/or templates for these options. For compliance purposes, the revised LCR should require that a PWS individually notify customers with known or possible LSLs describing the risks of lead in drinking water, specifically inviting them to participate in the LSLR program, and clearly describing the terms of the program, and how to follow up. If the customer does not respond or chooses not to participate, the PWS must follow up with another invitation at least every three years and always when there is a new customer at that address until the full LSL is replaced.

5. *Control and Responsibility:* The revised LCR should require PWSs to clearly state how the PWS defines ownership of LSLs, who has what financial responsibility for the replacement, what the legal basis is for that determination and any financial assistance programs that may be available.

6. *Planning and Financing Options:* EPA should provide a template and guidance for planning LSL replacement programs, including reference to options to assist customers replace their portion of lead service lines. Small systems may wish to refer to a national information source, such as one provided by EPA; large systems may wish to tailor such information to their circumstances. (See section 4 for further detail.)

7. *Operations and Customer Engagement:* EPA also should provide guidance on PWS policies and procedures for how to engage customers in full lead service line replacement and to inform them on appropriate risk reduction measures. PWSs should adopt templates provided in guidance by EPA or, for larger systems, their own standard operating procedures (SOPs) and make them available to their customers and the primacy agency for:

   a) planned capital projects by the PWS that would require:
      - Prior notification (e.g., 45 days prior to planned main replacement or repair) - Contact letter to affected households likely to have lead service lines, providing information about lead service lines, associated risk, risk reduction options, and full-lead service line replacement options.

- Reminder of flushing post LSLR (e.g., 48 hours prior to actual field work affecting structure) -- Door hanger (or alternative direct contact) with information on flushing and POU devices immediately after lead service line replacement.

b) emergency main and service line repairs by the PWS that would define how to manage potential disturbance to LSLs safely:
   - Direction to information on lead service lines, associated risk, risk reduction options, and full-lead service line replacement options.
   - Door hanger (or alternative direct contact) with information on flushing and POU devices immediately after lead service line replacement.

c) flushing of service lines after lead service line replacement:
   - Flush outside hose bib or similarly located spigot close to the meter
   - Initial flush followed by house flush by homeowner or plumber using multiple taps to maximize water velocity
   - Information on proper use of filters when lead levels might be high

d) Requiring PWSs to inform other utilities (e.g. power, cable) whose work might affect water service lines or water mains, both proactively and at "mark out" for specific projects, about how to manage potential disturbances safely and about information to provide residents of affected homes about potential risks and risk mitigation measures. Those other utilities would have the responsibility to alert residents.

8. Community and NTNC water systems (schools, hospitals, churches, jails, etc.) who own the system and control the entire distribution system should replace LSL's as soon as practical, at a timetable to be determined by EPA. This requirement would not apply to community systems where the majority of the connections are individual residential connections (such as mobile home parks and HOA's) where there may be complications due to property ownership of the residence.

The LCRWG discussed and agreed that EPA guidance should encourage PWSs to make every effort to ensure that LSL replacement provides equal protection to low income customers (or rental units with low income residents), people of color and others protected by civil rights law and policy. Environmental justice and civil rights considerations are particularly important in those jurisdictions where the PWS requires the property owner to pay a share of the costs of removing the LSL. Making environmental justice a priority can be achieved through creative financing programs for low-income customers and setting priorities for which neighborhoods are targeted first for LSLR to ensure equal treatment of low income neighborhoods.

The LCRWG also discussed but did not agree that the definition of control as ownership should be changed in the revised LCR. In the current LCR, when a system exceeds the LAL, EPA requires water systems to replace only that portion of the LSL that it owns. This is based on EPA's current interpretation of the term "control" in the definition of public water system as limited to ownership. Some members of the LCRWG urged that the current definition of control as "ownership" should be replaced with a requirement that PWSs must replace the entire LSL, where they have the authority to "replace, repair, or maintain" the line or where they have other forms of authority over the LSL. However, the LCRWG also recognized that some utilities are prevented by law from spending public funds on private property and that gaining physical access to private property poses significant legal issues when a property owner objects.

The LCRWG does agree that the revised LCR should require PWSs to inform customers about the scope of their responsibility with regard to LSL replacement and the legal basis for that decision.

3.1.3 LSL Compliance

3.1.3.a LSL Replacement Compliance

Recordkeeping:
- Inventory of LSLs
- Customer refusals to participate in full LSL replacement

Reporting: At the end of each three year period, each PWS must provide to the primacy agency:
- Certification of the outreach and other efforts implemented (see Table 2 for initial examples);
- Report on the change in the number of LSLs removed from the inventory with better information;
- Report on the number of full LSLs replaced; and
- Report on locations where the utility side LSL was replaced, but the homeowner did not replace the private portion

Violations:
- Failure to conduct required outreach;
- Failure to step up intensity of efforts if 3-year LSL replacement target has not been met;
- Failure to provide on-going outreach to new customers and to follow up (at least every 3 years) with customers at locations with full or partial LSL who do not respond or chose not to participate in the LSL replacement program;
- Outreach materials do not meet the content requirements of the rule

3.1.3.b Operations and Customer Engagement Compliance

PWS must maintain records of who was notified, when notice was given, and content of notice for each capital project. (for 7a and 7b)

Violations:
- Lack of timely notice to customer that LSL removal is scheduled
- Notice materials do not meet rule content requirements

PWS also must develop SOP, and maintain records that it was provided to all utilities conducting activities which may impact LSL (for 7d)

Violation:
- PWS has not developed an SOP (or adopted an SOP template available on the National Clearinghouse) or not provided it to other utilities

3.2 Develop Stronger Public Education Requirements and Programs for Lead and LSLs

Given the public's role in the shared responsibility nature of the LCR, notifying and educating the public about lead in drinking water is important for risk reduction. Public education about the risks of lead in drinking water also is important regardless of whether LSLs are present, since lead can be present in other

premise plumbing materials. Moreover, targeted outreach and, possibly, other efforts are a key to the success of LSL removal programs. The current LCR does not adequately focus on creating on-going opportunities to educate customers on the risks of LSLs or on opportunities to replace them, especially when action is most likely, e.g. at the sale of a home.

The objectives of public education programs should include consumer understanding of: 1) the risks of lead in drinking water; 2) the likelihood that the water in one's home may contain lead; 3) the LCR as a "shared responsibility" rule; and 4) the availability of additional resources that consumers can use to better minimize their exposure to lead.

Although the LCRWG was briefed on and has experience with public education requirements and practices, it does not include members whose specific area of expertise is consumer-centered risk communication. Thus, the LCRWG generally recommends that public education programs for lead should move away from past practices of one-way communication from "experts" to the "public" toward newer concepts of risk communication that involve sustained, multiple, two-way channels of ongoing communication and partnership with the public.[5] EPA should consult with those with such expertise about the outreach and communication recommendations in this report, and encourage and apply best practices in effective ways to communicate with the public.

Communication in languages appropriate to the demographics of the community, in clear terms understandable by the public, and with engaging, reader-friendly graphics, photos, and video all help achieve greater understanding. Outreach programs and materials can be improved by involving people with diverse, and consumer-oriented expertise and perspectives, including consumer-centered risk communication experts, community members with extensive experience with lead in water including individuals not necessarily affiliated with an organization, lead/copper corrosion experts, grassroots public-health workers, and staff of PWSs, state and federal regulatory agencies and public health agencies. This information can and should be conveyed in different ways and through different communication channels, tailored to the specific circumstances.

Thus, with these and other considerations in mind, the LCRWG recommends that EPA, in consultation with the aforementioned stakeholders and drawing on principles of consumer-centered risk communication:

- Establish an easily accessible, national clearinghouse of information about lead in drinking water to serve the needs of the public and of public water systems (section 3.2.1).
- Require information be sent to all new customers on the potential risks of lead in drinking water (section 3.2.2)
- Revise the current CCR language to address lead service lines and update the health statements (section 3.2.3).Add requirements for targeted outreach to customers with lead service lines (section 3.1.1).

[5] Resources include: 1) EPA's "Risk Communication in Action" (http://nepis.epa.gov/Adobe/PDF/60000I2U.pdf) ; 2) EPA's "7 Cardinal Rules of Risk Communication" (http://www.wvdhhr.org/bphtraining/courses/cdcynergy/content/activeinformation/resources/epa_seven_cardinal_rules.pdf); and 3) Education & Communication WG Report 2010; National Conversation on Public Health and Chemical Exposures (http://www.resolv.org/site-nationalconversation/files/2011/02/Education_and_Communication_Final_Report.pdf)

- Strengthen requirements for public access to information about lead service lines, tap monitoring results, and other relevant information (section 3.2.4).
- Expand the current requirements for outreach to caregivers/health care providers of vulnerable populations (section 3.2.5)

As part of EPA's consultation with the aforementioned communication experts and stakeholders, the LCRWG recommends that EPA include consultation about methods that would increase public awareness of and motivation to learn about the effects of lead in drinking water and the benefits of removing these materials and/or taking regular precautions when cooking or drinking, regardless of whether LSLs are present or there has been a lead AL exceedance. Consistent with this advice, EPA also should take small systems into account and consider whether such methods should be included in guidance or in revisions to the LCR.

3.2.1 National Lead in Drinking Water Clearinghouse

The LCRWG recommends that EPA take the lead, working with other partners to establish a national, accessible information clearinghouse. The LCRWG suggests that this information clearinghouse include a website, that the materials on the web site be accessible for distribution through the Safe Drinking Water Hotline for those who may not have internet access, and that EPA investigate and apply newer communication technologies and ideas for interactive or other innovative means of communication with the public about lead in drinking water (e.g. social media methods and outreach programs).

The clearinghouse should include information in multiple languages, in clear terms understandable by the public, and should include engaging, reader-friendly graphics, photos, and video. EPA is encouraged to include the design of the clearinghouse in its consultation with people with diverse, and consumer-oriented expertise and perspectives described above.

Such a clearinghouse would be intended for use by the general public, PWS's, public health agencies, and health professionals. It should include:

- information and educational materials for the public that the public could access directly and that PWSs could use to meet many of the public education requirements of the LCR.
- guidance and templates, particularly for small systems, on SOPs for compliance with the LCR (e.g. templates for communicating lead monitoring results to individual customers, templates for explaining to customers how to obtain information on whether their service line could be lead, templates for standard operating procedures related to the LSL replacement program recommendations above, etc).
- Principles and guidelines for best practices in developing the content of the public education materials.
- Case examples of how communities have been successful in lead inventory updates and removal programs, information about funding sources, model ordinances or other types of authorities PWSs have to enable them to implement full LSL replacements, and contacts to other relevant agencies.

Further, EPA should consider best practices in methods for achieving greater public awareness of the clearinghouse so that it reaches as many people as possible.

The web site should include the following information:

Health risks

- Clear and prominent statement that no level of lead in drinking water is safe for human consumption and that a short-term exposure to a young child can result in permanent harm to the brain if the levels are high enough.
- Clear and distinct language on the health risks of consuming lead in drinking water
- Identification of the most vulnerable populations
- Importance of drinking water plumbing as a lead source
- How to have blood lead levels (BLLs) checked and limitations of testing
- How to have water tested and limitations of testing
- List of labs for testing water other than the utility and what to ask for in terms of number and size of bottles, diameter of mouth of bottles, analysis that measures lead particles, etc.

Forms of lead in water and health risk implications

- Soluble
- Particulate
- Unpredictability of lead release

Sources of lead in drinking water

- LSLs
- Other lead-bearing plumbing
- Scale on internal plumbing that can be a source of lead from present or past LSLs

Identification of service line material

- How to recognize a pipe that is made of lead (and when not to check due to age of home)
- What to do about galvanized pipe and why it is a potential source of lead

For homes with LSL

- LSL ownership
- Difference between full and partial lead service line replacement (physically and in terms of health risks)
- Benefits to full LSL replacement
- Actions to take if you have a partially replaced LSL
- Available methods for LSL removal
- Opportunities for removal, approximate cost, and financing options
- Overall benefits to the community of removing LSLs fully (lower treatment costs, better community health, environmental, etc.)
- Where applicable, requirements for notification during real estate transfer or new rental

Health-protective actions

- Precautionary water-use practices
- Role of filters and proper maintenance of them if they are used
- Replacement of leaded plumbing with lead-free plumbing

Additional information

- How to contact your utility and request a LSL inspection and/or water test
- Where applicable, reference to utility-specific website with local lead-related documents and data (e.g. Consumer Confidence Reports (CCRs), sampling protocol used for LCR compliance, lead-in-water test results, etc.)

- What you need to know about lead in water in schools and day care centers (it is not regulated, and link to national website that provides more information)
- Reference to a national website that provides a video version of basic educational information, including information on how the LCR works (with minority language versions)
- Other standard operating procedures, model ordinances, or templates for compliance with the revised LCR
- Where to get more information on drinking water, on lead in water, and on lead in general

3.2.2 Outreach to New Customers

The LCRWG recommends that a revised LCR require PWSs to provide information to all[6] new customers in a letter or via other direct means on the potential risks of lead in drinking water.

The outreach materials should include information about the potential for lead from plumbing materials to contaminate drinking water even when a PWS meets the LCR LAL, to contaminate drinking water in homes with and without LSLs, and to pose chronic and acute health risks to vulnerable populations. The specific information to be covered in those materials could be included in the consultation with the diverse group of experts as described in the introduction to Section 3.2 above and in Section 4 below. Although the LCRWG defers to such a group, it suggests that at a minimum the following topics be covered:

1. Information about lead in drinking water (its sources, variable and erratic release, and wide range of lead concentrations)
2. Information about the health effects of lead in drinking water (including chronic and acute health risks)
3. Information about the LCR's shared responsibility regime
4. Actions the PWS is taking to minimize lead in drinking water
    - PWSs with LSLs would mention their proactive LSL replacement program
5. Steps consumers can take to reduce exposure to lead in drinking water
    - In addition to a list of actions like the ones mentioned in the current Rule, PWSs with LSLs would spell out how consumers in homes with a LSL can participate in their proactive LSL replacement program
6. Phone numbers and online links for additional information (including a link to EPA's online National Clearinghouse)

The outreach to new customers should be delivered within 30 days or with the first bill.

3.2.3 Revise the Current CCR Language

The CCR is a necessary but not sufficient source of information for the public. It can provide general information, but is not designed to be frequent or detailed enough for all public education purposes.

All community water systems (CWSs) should continue to include a statement about lead in their CCR. There may be circumstances (e.g. a subdivision built entirely after January 2014 when "lead-free" requirements came into effect), where a CWS can demonstrate that there are no lead-bearing materials in contact with drinking water. EPA may want to consider allowing the primacy agency to waive this CCR language requirement if an entire CWS can meet this criterion.

[6] EPA may wish to consider circumstances under which exceptions might be applicable.

The LCRWG recommends that the CCR language should be strengthened to include:

- Public health statements updated to reflect current understandings that there is no safe level of lead and a summary of the health effects, that this risk pertains to everyone, and that some individuals are particularly vulnerable;
- A link to the national clearinghouse should be added to the CCR for all CWSs;
- Recognition that a CWS's compliance with federal regulations does not guarantee what level of lead (lower or higher) might be found at the tap in a particular home; and
- The message that customers play an important role in protecting themselves from exposure to lead.

In addition, the work group recommends that PWSs where full or partial lead service lines exist (or are presumed to exist until an inventory demonstrates otherwise) also add information about what a lead service line is and how to contact the utility for information about how to find out if you have one and why you should replace it.

Further, the LCRWG recommends that the following redraft of the CCR be considered as a starting point for incorporating the elements listed above, to be reviewed by the diverse group of experts that the LCRWG suggests EPA consult .

> ***Important Information from EPA about Lead*** *If lead is present in your drinking water, it ~~elevated levels of~~ can cause serious health problems, especially for pregnant women and young children. Lead can affect children's brains and developing nervous systems, causing reduced IQ, learning disabilities and behavioral problems. Lead is also harmful to adults. Lead in drinking water is primarily from materials and components associated with ~~service lines and~~ home plumbing and service lines (the pipe connecting your home to the water main). ~~(System name) is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.~~ Contact us for information about lead service lines, how to find out if you have one and why you should replace it. [Last sentence for systems with LSLs.]*
>
> ~~*When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.*~~ *Protecting you against exposure to lead is a shared responsibility. Your water utility is required to minimize the corrosivity of the water. However, because every home is different, the amount of lead in your tap water may be lower or higher than the monitoring results for your public water system as a whole. You can take responsibility for identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. If you have lead service lines or lead-bearing materials in your home, ~~are concerned about lead in your water,~~ you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or www.epa.gov/safewater/lead. [Insert new national web site link]*

3.2.4 Strengthen Requirements for Public Access to Information

The LCRWG supports the public's right to know about the quality of their water and considered various options to increase the public's access to data related to lead and copper.

Under the current rule, the PWS is only required to make publicly available through the Consumer Confidence Report (CCR) that the "90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level." 40 CFR 141.153. In many jurisdictions, a

concerned consumer may be able to obtain or view a redacted version of the complete sampling data set but this approach is time-consuming and burdensome on the PWS (or the state) and the community. EPA receives only a summary of the sampling results.

As the LCRWG evaluated different approaches, we kept in mind EPA's Office of Enforcement and Compliance Assurance (OECA) five principles for highly effective regulations and that OECA is working with regulatory programs to evaluate new and revised rules against these principles. Principle 4 calls for rules to "leverage accountability and transparency by providing the government and the public with real-time access to quality information on regulated entities" emissions, discharges and key compliance activities and outcomes." OECA identified two tools to accomplish this:

- Electronic reporting to the government.
- Public accountability via websites, paper/electronic mailings, and other ways to provide the public and stakeholders (e.g., customers, ratepayers) with compliance information.

The LCRWG encourages EPA to use the SDWIS-Prime data system[7] that is under development to meet the first provision of the above goal. Electronic reporting from utilities to a centralized data system would allow the public to access data from the State or EPA in a coordinated manner and allow for consistent access to all water quality data, not just data for lead and copper.

Until such time as the new data system is in place, though, the LCRWG believes that water systems should increase the availability of data to the public. This would include:

- The number of samples over the Household Action Level (described in Section 3.5 below) in the last monitoring period, the highest level found during the last monitoring period, the median levels, and the most recent 90th percentile level compared to the "system action level" (renamed from the current action level).
- Requiring water systems to include WQP-related information on their webpage, or in the CCR or some equally accessible manner (e.g., CCT treatment, approved WQP ranges, WQP results from the last monitoring period)
- Encouraging water systems to post additional information on their webpages such as:
    - Public education materials (and link to National Clearinghouse).
    - Sampling protocols the water system provides to customers to use when collecting lead samples and any variations from EPA recommendations.
    - Individual sampling results (with appropriate privacy provisions such as address redaction).
    - Inventory (such as a map) of confirmed and presumed lead service lines.

Where a community has lead service lines, EPA should require PWSs provide a public statement of lead service line ownership and the legal basis of said determination. (See section 3.1.2, point 5 *"Control and Responsibility."*)

[7] SDWIS is a database for storage about drinking water systems. The federal version (SDWIS/FED) stores the information EPA needs to monitor approximately 156,000 public water systems. The state version (SDWIS/STATE) is a database designed to help states run their drinking water programs. SDWIS-Prime is an upcoming version of this program. The website for SDWIS is located here:
http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/index.cfm
SDWIS Reports:
http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/howtoaccessdata.cfm

3.2.5 Routine Outreach to Caregivers/Health Care Providers of Vulnerable Populations

The LCRWG recommends that a revised LCR encourage PWSs to cooperate in locally appropriate public education programs targeted at caregivers and health providers of the populations most vulnerable to lead in drinking water (i.e., pregnant women, infants, young children, and children with elevated BLLs). The intent of such outreach is to raise awareness among caregivers and health providers about the health risks of lead in drinking water, easy steps to prevent exposure, and the availability of EPA's online National Clearinghouse for further information. It is expected that public education messaging in service areas with LSLs will differ from public education messaging in service areas without such lines.

In conducting outreach to caregivers and health care providers it is important that the message be provided by an organization or individual that carries credibility with those audiences. The LCRWG suggests the way to best ensure that caregivers and health providers hear and respond appropriately to information about lead and drinking water is for water suppliers to participate in joint communication efforts, lead by state health departments, state lead poisoning prevention agencies, and state drinking water primacy agencies. This outreach should be targeted to individuals, organizations and facilities likely to be visited by the vulnerable populations of pregnant women, infants, and young children, such as:

1. local public health agencies;
2. public and private pre-schools, schools;
3. Women Infants and Children (WIC) and Head Start programs;
4. public and private hospitals and medical clinics;
5. pediatricians, obstetricians-gynecologists, and midwives;
6. family planning clinics;
7. local welfare agencies; or
8. licensed childcare centers.

1. The outreach efforts should make use of the information provided in the clearinghouse

Examples of communication vehicles that might be suggested in guidance materials include:

- Development and routine delivery of a joint communication from the PWS (or a group of PWSs) and the City/State to:
    * Health providers (e.g., OBGYNs, pediatricians, midwives)
    * Childhood lead poisoning prevention professionals/organizations
    * Professionals at licensed daycare centers and schools
    * Listservs/organizations for pregnant women/parents of infants (e.g., local listservs, environmental health groups, La Leche League, etc.)
- Delivery of educational materials during any water-related work at customer homes
- When lead-in-water levels at individual homes test above the HAL, delivery of information to a) the residents at the home and b) City/State health departments. These materials ought to cover information prescribed in the current LCR for public outreach during a LAL exceedance as well as:
    * The lead level detected at the specific home
    * What this level means in terms of health risk to vulnerable individuals
    * If the PWS determines that the home has a LSL, information about how to participate in the PWS's proactive, full LSL replacement program.

The LCRWG also recommends that EPA, informed by the advice of the diverse group of experts described above and working with CDC, HHS and HUD, develop guidance (and make it available through the National Clearinghouse) on how to develop and deliver effective communication efforts to caregivers and health care providers focusing on ways those individuals and groups can reach pregnant women, parents of infants and young children and those who care for them. The audience for those materials would be state primacy agencies, state or local health departments, and state or local lead poisoning prevention agencies, as well as PWSs.

To support PWSs in the development of feasible, locally appropriate, and successful public outreach programs targeting vulnerable groups on a routine basis, the LCRWG recommends the following: that the diverse group of experts EPA may convene for the development of consumer-centered public education messaging and materials (see introduction to Section 3.2), also develop guidelines and best practices that PWSs can use to create proactive risk communication programs. Echoing extant principles and understandings of effective risk communication,[8] we imagine such programs to involve robust collaboration between PWSs, many of the local public health agencies and organizations listed above, as well as local childhood lead poisoning prevention groups (State-funded and grassroots), environmental health organizations, and key community leaders (e.g., advisory neighborhood commissioners).

Education of public health and health care providers on lead and water issues

The LCRWG had extensive discussions about the frustration that members of the group had that many in the public health community minimized the risk of lead exposure from drinking water, placed a lower priority on actions to reduce that risk, and frequently provided incomplete or conflicting information to members of the public or patients. This made and continues to make the work of water professionals in motivating appropriate action by customers more difficult. Those in the health sector are highly regarded, and viewed as knowledgeable about all health related topics. Customers will look to them for advice and to validate what they hear from their water provider. Efforts by water systems to reach out to their customers must be appropriately re-enforced by those in the health sector if those efforts are to be successful.

The LCRWG recommends that EPA, CDC, HHS and HUD conduct training and outreach to local health agencies, medical professionals and local and state lead poisoning prevention agencies on:

1. Information about lead in drinking water (its sources, variable and erratic release, and wide range of lead concentrations)

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[8] Lundgren, R. E. and A. H. McMakin. 2013. *Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*. Hoboken, NJ: John Wiley & Sons, Inc.
Risk Communication in Action, http://nepis.epa.gov/Adobe/PDF/60000I2U.pdf
Communicating about Lead Service Lines,
http://www.awwa.org/Portals/0/files/resources/publicaffairs/pdfs/FINALeadServiceLineCommGuide.pdf

Strategies to Obtain Customer Acceptance of Complete Lead Service Line Replacement,
http://www.awwa.org/Portals/0/files/legreg/documents/StrategiesforLSLs.pdf

National Conversation on Public Health and Chemical Exposures: Education and Communication Work Group Report, http://www.utmb.edu/cet/downloads/Natl_Conv_Edu_Comm_WorkGroup%20Report.pdf

Advancing Collaborations for Water-Related Health Risk Communication,
http://www.waterrf.org/PublicReportLibrary/91145.pdf.

2. Information about exposures routes of lead in drinking water to different vulnerable populations, including pregnant women, infants and young children
3. Information about lead service lines
4. Information about the LCR's shared responsibility regime between water system and customer
5. Actions that PWSs typically take to minimize lead in drinking water
6. Steps consumers can take to reduce exposure to lead in drinking water, including removal of LSLs
7. Phone numbers and online links for additional information (including a link to EPA's online National Clearinghouse)

The LCRWG also recommends that EPA work with CDC to incorporate in the CDC's website, educational materials, and materials used by CDC-funded childhood lead poisoning prevention programs nationwide, accurate and up-to-date information about lead in drinking water (its sources, variable and erratic release, wide range of lead concentrations, chronic and acute health risks, the LCR's shared responsibility regime, steps to prevent exposure).

3.2.6 Public Education Compliance

3.2.6.a Compliance for New Customer Outreach

Violations:

- Failure to provide information to new customers

3.2.6.b Compliance for CCR

Recordkeeping, reporting and violations: Same as in the current CCR rule, with updated content.

3.2.6.c PE Compliance for Public Access to Information

PWS must provide the public access to information about:

- Number of samples over the Household Action Level, median, 90th percentile, and highest level found in the last monitoring period
- CCT treatment, approved WQP ranges and WQP results from the last monitoring period

Violations:

- Failure to make this information available to the public

3.3 Improve Corrosion Control

Corrosion Control Treatment (CCT) involves the addition of chemicals (e.g. orthophosphates or silicate) to create a barrier between the pipes and the drinking water, or to modify drinking water chemistry (such as pH and hardness) to inhibit the potential for corrosion. The concept is to manage the treatment system to reduce corrosion (and, thus, the release of metals such as lead and copper) from the distribution system and premise plumbing.

Under the current LCR, PWSs serving more than 50,000 people were required to work with their primacy agency (typically the state) from 1994 to 1997 to designate and install optimal corrosion control treatment. Systems serving 50,000 people or less must optimize corrosion control treatment only if the

results of lead and copper tap sample exceed the action levels. A PWS exceeds the lead AL if ten percent or more of the tap samples collected are greater than the 15 ppb action level.

In evaluating CCT choices, a PWS must consider list of assessment parameters; and, as part of the approval of a PWS CCT plan, the state also approves a shorter list of process control parameters applicable to that system to demonstrate that the selected treatment is being properly operated over time. For purposes of this report, the term water quality parameters (WQPs) applies to these latter process control measures. Recommendations concerning WQPs are included in Section 3.4.

Based on the experience with current LCR requirements provided to this work group and shared by work group members, the LCRWG has concluded the following:

- CCT remains an important component of the LCR, in that it is intended to achieve a water quality that minimizes dissolution of lead and copper in water.
- Effective CCT varies based on the specific conditions from system to system. Increased knowledge about CCT since promulgation of the current LCR, if applied today, could lead to improvements in CCT in some systems. Thus, PWSs and their primacy agency should apply the most current science, tailored to the unique circumstances of each system, to the choice of treatment plan and its associated water quality parameters. A variety of factors affect the dissolution of lead in water, including but not limited to pH and alkalinity. Factors other than the stability of designated WQPs can include, among others, the formation/dissolution of protective scales; the presence of manganese, iron, chlorides, sulfates, aluminum and other materials; and temperature. Variations in water quality also can occur within the distribution system. These water quality conditions vary among PWSs, which in turn affect the CCT choices a PWS must make in the context of other regulatory requirements.
- Lead also occurs in different forms in plumbing systems, from soluble to insoluble and particulate in nature. Sources of lead vary from the very common leaded solder and brass fixtures/valves, to LSLs, and to less common lead-lined iron pipe. CCT is more effective in reducing exposure to soluble lead than it is for particulate lead, although CCT that contributes to the formation of certain scales may also provide benefits in reducing exposure to particulates. Thus, while very important, CCT is not the only lead control mechanism that a PWS must have in place. In other words, CCT should not be relied upon by itself to control lead in water. Rather, it should be one of a tool box of other required mechanisms depending on a PWS's particular conditions and lead sources (e.g. LSLs, leaded solder, leaded brass, etc.). These tools are described in other sections of this report and include: LSL replacement (as well as the replacement of other less common sources of lead such as lead-lined iron pipe), current and future use of lead-free materials, stronger public education including targeted public education to vulnerable populations (pregnant women and families with infants and young children), availability of certified POU filters, instructions on how to flush plumbing systems when lead could be disturbed, etc.

3.3.1 Corrosion Control Recommendations

The LCRWG recommends that:

- EPA release a revised CCT guidance manual as soon as possible and update this manual every six years, so that PWSs and primacy agencies can take advantage of improvements in the science;
- EPA provide increased expert assistance on CCT to PWSs and primacy agencies;
- The LCR continue to require re-evaluation of CCT when a PWS makes a change in treatment or source water;

- The LCR continue to require WQP monitoring to ensure that the CCT is achieving the treatment objectives and that EPA consider requiring such monitoring on a more frequent basis with additional guidance on process control methods; and
- Large systems review their existing CCT plan in light of current science in a newly revised guidance manual with their primacy agency to determine whether the WQPs reflect the best available current science. The LCRWG suggests that this review be done every six years following EPA's six year rule review cycle, and subject to there being sufficient science change that EPA updated the guidance manual. EPA should plan to review and refresh Agency guidance every 6 years, subject to significant improvement in the state of knowledge, to allow research to inform rule implementation. In addition, regularly revised guidance would help states and systems stay current with corrosion control science as they respond to problem situations, but more importantly help them anticipate challenges as new water sources and treatments are brought on line, or they contemplate further refinement to corrosion control. Small and medium sized systems should work with their primacy agency to determine whether updates to CCT guidance is applicable to them.

3.3.2 Corrosion Control Compliance

PWS must maintain records that it reviewed new EPA guidance manuals and assessed whether and, if so, what changes to CCT are applicable, based on the current state of the science.

Violations:
- Failure to notify and consult with primacy agency on re-evaluating CCT if the PWS makes a change in treatment or source water
- Failure to review CCT when EPA updates the guidance manual (for large systems)
- Failure to act if state notifies them that they should assess CCT or make adjustments, based on state review of guidance manual (for medium and small systems)

3.4 Modify Monitoring Requirements

Under the current LCR, a PWS is required to conduct monitoring to assess the effectiveness of its corrosion control treatment (CCT) and trigger additional actions to reduce exposure when necessary. Water systems must compare sampling results to an Action Level (AL). The AL for lead is 15 µg/L and the AL for copper is 1.3 mg/L. In the Lead and Copper Rule (LCR), water systems must prioritize sample site locations (often residences) within the distribution system which are at a high-risk of elevated lead and/or copper in the water. Selection and use of these elevated lead and copper sites enables a smaller number of sample sites than random or geographic site selection procedures.

Implementation of this approach over time has revealed numerous challenges. Recruitment of customers to take in-home samples can be difficult and costly. Customers are not professional samplers and, thus, may implement the sampling protocols inconsistently. Research on sampling protocols also has shown that sampling results may vary, and not necessarily consistently, based on the configuration and length of lines from the water main to the sampling tap and whether the sample is a first draw or a subsequent sample intended to reflect water that had been in a LSL for some time.

The LCRWG recommends two types of on-going monitoring: 1) a more robust WQP monitoring program to improve process controls for CCT, and 2) voluntary customer initiated tap water sampling coupled with a more robust and targeted public education program to encourage sampling, in part to provide direct

information to consumers that they can use to reduce potential exposures to lead from drinking water in their home and to provide ongoing information to the PWS to identify and correct unanticipated problems.

The LCRWG also recommends that EPA establish criteria for a PWS to transition from the current rule framework into the new rule framework. The LCRWG recommends that the transition includes a condition that a PWS must comply with the requirements of the current LCR until the PWS has achieved three rounds of monitoring results under the lead AL using the current LCR requirements. Results from past rounds of monitoring can be used or new data will be required if prior data are above the AL. At that point, the PWS can define their CCT or WQPs for the new rule as that which was used to achieve this record. The existing lead AL should be redefined as a System Action Level in the new rule wherein it will be used when determining re-optimization, e.g. for use during a review of a new source or treatment, if the state determines that additional utility tap sampling is warranted. In other words, it will provide a baseline target for confirming CCT if lead sampling is chosen as one means by which to determine CCT. PWSs must continue to demonstrate that they are maintaining the WQPs used to establish the transitions. All systems, regardless of their lead AL status, should be required to transition to the new LSL replacement program and public education program requirements of the revised LCR as of the effective date of the new rule.

3.4.1 Water Quality Parameter Monitoring

As noted above, WQP monitoring is distinguished from the more extensive list of parameters that a water system would consider as it evaluates corrosion control technology choices. WQPs for the purpose of this section involve the on-going process control monitoring that demonstrates that the selected treatment is being properly operated over time.

The WQP program recommended below builds on what is in the current rule by recommending:

1) more frequent monitoring than currently required and monitoring that is representative of the distribution system (e.g. at points currently used for DBP monitoring or at a subset of points used for TCR monitoring) to capture currently undetected variability;
2) continuing to tailor WQPs to the individual PWS CCT plan and asking EPA to review and consider adding to the list of WQPs referenced in the LCR, based on EPA's anticipated revision to the CCT guidance manual;
3) that WQP monitoring be periodically revisited based on the advancing science as documented in research reports and disseminated through periodically revised EPA guidance manuals; and
4) that a more rigorous data review process such as control charting and similar process control techniques be used to take advantage of the collected data to improve the consistency of operation, encourage fine-tuning of processes, reduce variability of water quality within the distribution system and detect and manage excursions.

In addition, these data should be reviewed whenever there is a change in source or treatment (see 4.3 above); and, when a system or state primacy agency sees significant changes in WQP data, it should initiate a "find and fix" process, looking for what changed and why, and requiring the PWS make any needed adjustments or corrections. This provides one type of reality check and correction not explicitly in the current LCR.

In addition, the LCRWG recommends that systems which are not currently practicing CCT under the LCR but have been under the lead action level by virtue of either naturally non-aggressive source water or by virtue of other aspects of treatment in use, be required to conduct a WQP monitoring program to

continue to demonstrate that the characteristics which caused them to be non-corrosive are continuing to be in place.

3.4.2 Tap Sampling for Lead

The LCRWG also recommends that a voluntary customer-initiated sampling program based on the more robust and targeted public education efforts being recommended elsewhere in this report be substituted for the current LCR tap sampling requirements. .

The results of the voluntary tap sampling program will be used for three separate purposes:

- informing and empowering individual households to take action to reduce risk,
- reporting to health officials when monitoring results exceed a "household action level" (see section 3.5) and
- ongoing information to the utility to assess effectiveness of CCT.

Information for Households

Data from customer-initiated sampling will be valuable in informing and empowering individual households and thus provide greater customer service. All data provided to customers would need to include appropriate information about the variability of lead levels, that a single sample does not represent all water quality, and that levels at a particular tap at a particular time might be higher or lower. The transmittal should also provide appropriate information about the risks of lead exposure, sensitive populations, and actions the consumer can take to minimize risk.

This type of sampling is currently discouraged by the current rule because water systems are often concerned that "complaint" or "customer " samples would be included into the required 90^{th} percentile calculation with potential mandatory response actions if it exceeded the action level. This resulted in system not offering sampling or having the samples be analyzed through a private lab (and therefore the data would not be available for any utility management or regulatory purpose). Currently, PWSs are mandated to return to the same locations which, while it may have value for other reasons, means that many other households do not get the opportunity to understand their lead exposure. Voluntary customer-initiated sampling can also capture data from multi-family residences, which is not included in the mandatory LCR sampling in most cases. A new approach could achieve greater customer service and more data to understand and manage lead corrosion.

Outreach to encourage customers to sample will likely involve many different customer contact opportunities including the CCR, outreach related to having a LSL, outreach related to construction contracts, new customer contact, community meetings, other educational outreach efforts, and whenever a customer contacts the CWS for a water quality question or complaint.

Customers should be given the opportunity to determine the type of information they are interested in, thus should be offered a menu of sampling protocols, e,g. a random daytime sample to determine typical exposure levels, first draw to determine the effects of a brass faucet, or a timed or temperature determined sample from within a service line. The National Clearinghouse should include templates with instructions for each type of sample.

Information for Public Health Officials

Data from customer samples which exceeded the "household action level" recommended in section 3.5, would be required to be forwarded to health officials. While LCR tap water results are currently provided to the collecting household, the LCR does not require any action for individual high samples, and there is

no mandate to refer to health authorities. While the LCR cannot guarantee actions by health departments, this recommendation provides direct health intervention in those cases where sampling indicates high lead levels.

Information for Assessing the Effectiveness of CCT

The third use of the customer tap sampling data is to provide on-going information to the utility of potential changes in the effectiveness of CCT. Under the current rule, most systems are sampling for one four-month period every three years. Any changes or variability in lead levels at the tap during the other 32 months of that period are missed. Under this proposal, it is anticipated that there would be a more regular stream of data from more locations, providing information which can be used to understand system performance. The data would be provided to the state primacy agency and presented as time series data to facilitate identifying any changes in the data over time. Small systems might report the data on something as simple as a spreadsheet chart, while larger systems might use more sophisticated analytical methods to understand and use the data.

Unexpected or unexplained changes in the tap sampling data can be used in a "find and fix" approach to identify and respond to potential problems. This could be system initiated or in response to periodic review of the system data by the primacy agency, such as during a sanitary survey. This provides a reality check on whether something unexpected is happening within the distribution system, even though consistent treatment was maintained. The more robust (in both temporal and geographic distribution) of the customer sample data set provides a more powerful check on treatment than the current episodic sampling does.

Specifically the LCRWG recommends that the revised rule require that:

- any customer sampling data be reported to the state on a routine basis and include which of the menu of sampling protocols referenced above was used;
- data be provided as soon as possible and no later than within 30 days to the customer and, if over the household action level, to the health department (as discussed above and in section 3.5);
- the PWS maintain the data set for analysis and review, taking type and location of each sample into consideration, to identify trends and changes in the data;
- the data be available for public review as described in section 3.2.4;
- the PWS and the state review the data and trend analysis during sanitary surveys;
- annually, at the discretion of the primacy agency, the PWS provide the primacy agency with a data summary report of the three most recent years of all tap sampling data, the specific details of which should be determined by EPA;
- if the three most recent years of customer sampling data show that the 90th percentile (running three-year calculation) is above the System Action Level, then the PWS must analyze any changes or trends in the data to evaluate whether they are based on system-wide, local , or household-based conditions, and provide the report and analysis to the state for their review and determination if additional analysis, re-evaluation of CCT, or other actions such as household-based actions (LSL removal, education about lead-free faucets and flushing after non-use of water, etc.) are appropriate.
- if the system makes any source or treatment changes, the PWS and state should use the customer sampling data in the consultation, review and approval by the State currently required by the LCR.

The LCRWG also recommends that EPA provide guidance to states and PWSs on additional forms and types of data analyses which can be conducted on sampling data to provide more detailed understanding

of trends and to support system decision making on customer actions, treatment evaluations or development of system plans and priorities for LSL replacement programs.

It seems appropriate to include some sort of floor to the number of customer samples. Some members of the group suggested that systems should be required to collect no fewer samples in a three year period than they would under the current three-year reduced monitoring requirement.

When a system changes its source or treatment, and is required to consult with the state, the state primacy agency also may choose to require additional one-time monitoring to evaluate those changes if the degree of the change warrants.

Some members suggested that some small systems might want the opportunity to maintain the current home tap water monitoring program. The revised LCR should allow this, while not discouraging customer sampling.

3.4.3 Sample Invalidation Criteria

Under the existing regulation (141.86 (f)(1)), "The State may invalidate a lead or copper tap water sample if at least one of the following conditions is met.

(i) The laboratory establishes that improper sample analysis caused erroneous results.
(ii) The State determines that the sample was taken from a site that did not meet the site selection criteria of this section.
(iii) The sample container was damaged in transit.
(iv) There is substantial reason to believe that the sample was subject to tampering."

These are all good and necessary reasons for invalidating a sample and should be retained, but because this list is limited, samples must be accepted that are obvious "outliers" and don't represent the water that is normally consumed and should not be used as a basis for treatment changes or public education. This is especially true for small systems where the limited number of samples required means that a single, unusually high, value can cause the Action Level to be exceeded. This could lead to installation of expensive treatment when treatment is not needed or adequate corrosion control is already being provided. While probably not as frequent, non-representative samples could also cause water systems to be below the action level when treatment changes really are needed. Good invalidation criteria can help states address both problems.

The purpose of the invalidation is to make sure that decisions are based on the most representative set of samples possible and to do so through a process that provides adequate information to make good invalidation decisions and assures documentation of the reasoning behind the invalidation.

The following is a proposal from states that will serve those two functions.

States believe that the essential criteria for invalidation are already well stated in the Revised LCR Monitoring and Reporting Guidance (EPA 816-R-10-004, March 2010) or the October 2006 memorandum on Management of Aerators During Collection of Tap Samples to Comply with the Lead and Copper Rule. The LCRWG recommends that EPA take the following into account when revising the proposed rule and expand the invalidation criteria accordingly:

- Make sure the sample is taken at a tap that is used regularly, and not an abandoned or infrequently used tap."
- "If first-draw samples are collected at single-family residences, the sample must always be drawn from the cold-water kitchen tap or bathroom tap."

- "If first-draw samples are collected from buildings other than single-family homes, the sample must always be drawn from an interior tap from which water is typically taken for consumption."
- "Public water systems should not recommend that customers remove or clean aerators prior to or during the collection of tap samples for lead."

3.4.4. Monitoring Compliance

PWS must monitor and report based on water quality parameters and schedule set by state primacy agency, and use the data for on-going treatment process control (3.4.1)

Violations:
- Failure to monitor as per schedule
- Failure to maintain data, and use in process monitoring (to be evaluated by state during sanitary survey inspections or as state primacy agency requests)
- Failure to report data to state
- Monitoring results outside the WQP range established in the PWSs CCT plan along lines similar to current rule requirements

PWS also must include an offer to customers in all LCR related outreach to collect a sample, including in all LSL outreach efforts. PWS must also:
- collect sufficient number of samples, either by customer request or utility initiated sampling, i.e. no fewer samples in a three year period than under the current three-year reduced monitoring requirement, assuming the PWS qualifies for such reduced monitoring;
- promptly report the data to the customer, the state and local PH (if above health action level); and
- use the data as part of on-going evaluation of CCT performance, monitoring for changes in lead levels at the tap over time, geographic trends in levels, and interaction with distribution system water quality.

Violations:
- Failure to offer to sample
- Failure to collect minimum number of required samples within 3-year window
- Failure to report data to:
  - Household
  - State
  - Local public health agency (if above household action level) no later than 30 days after the result was received
- Failure to provide rule-required information in sampling offer materials, or in household reporting of the data
- Failure to use household tap sampling data in on-going evaluation of CCT and maintain record of having done so, (as determined by state during sanitary survey inspections or as state primacy agency requests)

3.5 Establish a Household Action Level

The current lead action level is based on the 90th percentile of the collected samples. Without a maximum limit, some users may be exposed to levels of lead in the drinking water that presents a potentially significant health threat, especially to children, without exceeding the action level.[9] If the levels are high enough and state and local authorities do not act, EPA could determine that the levels pose "an imminent and substantial endangerment to the health of persons" pursuant to section 1431 of the Safe Drinking Water Act. (40 USC 300i)

3.5.1 Household Action Level Recommendations

To avoid the possible need to invoke section 1431 of the SDWA, the LCRWG recommends that EPA establish in a revised rule a "household action level" and require the PWS to notify the local health department and state drinking water authority of sample results over that level. The requirement would be triggered by any sample results that the PWS receives from a user or from its own monitoring. However, the PWS would not be required to make the notification until it has investigated the sample in a timely manner to eliminate sampling or assay errors.

The existing rule already requires the PWS to notify residents of the results of water system conducted lead sampling. We would anticipate that the PWS would alert the resident to possibility that the health department may be notified when the sample was taken or the resident provided the PWS with the sample results. While this notice may have the unintended consequence of discouraging some customers from testing, it is important for the customer to make an informed choice.

In response to the notification, the PWS and the health department would consider the situation and take action that they deem appropriate (e.g., testing children's blood, recommending a filter, discussing lead service line replacement with the resident or landlord, advising grandparents about risk to visiting children, or continuing to monitor the situation). We anticipate that the health department be the lead agency, and that the rule would not prescribe actions other than notice as the situations are too diverse and complicated for prescription actions. The LCRWG encourages EPA to work with the Centers for Disease Control and Prevention on recommended approaches and make this information available through the clearinghouse discussed in section 4.2.

This requirement would be somewhat similar to the regulatory approach taken by the Department of Housing and Urban Development which mandates that public housing authorities notify the local health department within five days when it receives information from any source that a child of less than six years of age living in an assisted dwelling unit may have an environmental intervention blood lead level. (24 CFR 35.1225)

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[9] The LCRWG discussed the relationship between the household action level and the current lead AL (to be renamed the system action level). These levels have two distinct purposes. The LCRWG assumed during its discussions that the household action level would be significantly greater than the system action level. It recognized, therefore that, depending on what level is set, the household action level may have impacts on other recommendations in this report.

We recommend that EPA set the household action level based on the amount it would take for an infant to have a blood lead level greater than five micrograms per deciliter (µg/dL) based on consumption by an average, healthy infant of infant formula made with water. When a child's blood lead level exceeds five µg/dL, the Centers for Disease Control and Prevention (CDC) recommends that laboratories and health care providers notify local and state health departments and that action be taken to identify and prevent further exposure.[10]

3.5.2 Household Action Level Compliance

If household sample exceeds the household action level, PWS must promptly notify the household and the local public health agency; certify that this has been done, and maintain records of having done so.

Violations:

- Failure to report data no later than 30 days after the result was received, to
  - Household
  - Local public health agency
- Failure to certify to state that data was reported to the household and to the local public health agency within 30 days
- Failure to maintain records of correspondence between PWS and the local public health agency,

3.6 Establish Separate Monitoring Requirements for Copper

The current LCR does not deal effectively with copper. Generally speaking, the current rule focuses on the health benefits associated with lead risk reduction, with the result that the currently required in-home sampling is often done in locations with old copper that has passivated. Thus, the possibility may be missed that a system's water chemistry could result in copper releases. Further, the current rule does not require public education for copper, which can have broad benefits.

The LCRWG has concluded that the regulatory approach should separate lead and copper risk management, refocusing attention to where there may be a problem with copper without increasing the burden on systems where there is not a problem. This can be achieved in a cost effective manner by targeting copper monitoring requirements to those PWSs where there may be exposures.[11]

Elevated exposures to copper generally result from new copper plumbing[12] where water chemistry is aggressive to copper. It is technically possible to identify water chemistries that are aggressive versus not aggressive to copper. Thus, the LCRWG recommends that the requirements for copper monitoring focus first on sampling for basic finished water quality parameters such as pH, alkalinity, and orthophosphate in a way that is representative of the distribution system to identify waters that are aggressive to copper. Systems that can demonstrate that their finished waters are not aggressive to copper or that their

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[10] http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm

[11] The LCRWG recommends this approach, assuming EPA determines that the health benefits of regulating copper justify the costs. A full health risk assessment for copper was beyond the scope of the LCRWG's charge, however; and, thus, EPA's analysis of whether benefits justify the costs may have implications for these recommendations.

[12] New copper is generally understood to be between six months to three years of use.

distribution systems contain no copper should have no further copper monitoring requirements. This could be written into the rule, rather than require a monitoring "waiver."

3.6.1 Copper Recommendations

Further, the LCRWG recommends that the LCR be revised based on the following concepts:

1. Instead of basing action on the results of routine, in-home copper sampling, actions should be based on the aggressiveness of the water to copper. Systems can determine if their water is aggressive to copper by doing WQP monitoring in the distribution system. All PWSs should be assumed to have water that is aggressive to copper unless they demonstrate that it isn't.

2. EPA should develop criteria to define water that is not aggressive to copper for the purpose of establishing whether a system falls into that category (or "bin") for the purposes of the LCR. EPA should consider the accuracy and potential variability of pH and alkalinity monitoring as well as corrosivity to copper in establishing pH and alkalinity ranges. The criteria also should include consideration of passivation time. Examples of bins (for verification by EPA) would be:

    a. if alkalinity is < 35 pH must be > 7.0 (no upper pH limit)
    b. if alkalinity is 36 to 100, pH must be > 7.2
    c. if alkalinity is 101 to 150 , pH must be > 7.5
    d. if alkalinity is 151-250 , pH must be > 8

If orthophosphate is used, examples of bins would be:

    a. if alkalinity <150, PO4 must be >1 mg/L
    b. if alkalinity is 150 to 200, PO4 must be > 2 mg/L
    c. if alkalinity is 200 to 240, PO4 must be > 3 mg/L
    d. if alkalinity is greater than 240, PO4 must be > 3.3 mg/L

3. PWSs can choose one of several approaches to demonstrate that their water is not aggressive to copper:
    a. Conduct water quality parameter monitoring to assess whether their water meets the definition established by EPA.
    b. Conduct a one-time evaluation with copper sampling at vulnerable houses (houses < 2 years old with new copper plumbing) to demonstrate that water chemistry is non-aggressive (copper levels fall under the AL/SMCL). EPA may want to consider:
        i. Limited number of sample sites needed given copper chemistry
        ii. Provision for sample invalidation based on site-specific conditions such as biologically-induced corrosion.
    c. Conduct a pipe loop study to demonstrate the water chemistry is non-aggressive
    d. Change water chemistry to within the range established for non-aggressive water quality
4. PWSs with water **classified as non-aggressive to copper** must continue to demonstrate that the water is non-aggressive. PWS's can choose to:
    a. Maintain those WQPs that demonstrate it maintains non-aggressive water under (2) above, or

b. Conduct copper sampling at vulnerable houses (houses < 2 years old with new copper plumbing) to demonstrate that water chemistry is non-aggressive (copper levels fall under the AL/SMCL)

PWSs that are not able to maintain their WQPs must implement a public education program as described in the next section.

5. PWS's with water **classified as aggressive to copper** must initiate and maintain a public education program. The public education program must either provide:

   a. Information to all new homes (new construction or change of service) upon initiation of new service

   AND

   b.

   i. Information to newly renovated homes at time of renovation

   OR

   ii. Information to all customers on a routine basis

   In addition, in guidance, EPA should encourage PWSs to notify contractors, plumbing suppliers, and plumbers of copper corrosivity and to work with relevant officials and organizations to consider building and plumbing code changes that would prohibit copper piping in new construction if the corrosive water conditions cannot be eliminated. EPA also should provide guidance and/or templates, particularly for small systems, for public education messages and modes of delivery.

6. EPA should consider whether or under what circumstances CCT should be required for a PWS **classified as aggressive to copper** Not all systems with water aggressive to copper necessarily will have homes with new copper, so treatment might not be necessary or perhaps even advisable, particularly for small systems that can control plumbing materials used or for systems in communities that modify their plumbing codes. Passivation time of copper varies considerably, and CCT may not be necessary or advisable when passivation time is short if interim actions to protect public health other than CCT are feasible. In determining when CCT should be required and any associated monitoring requirements, EPA also should take into consideration that a PWS may not have access to information about renovations where new copper has been installed and, even when such information is available, can't control whether the customer will participate in a monitoring program. Setting the correct level and establishing a regulatory approach that triggers CCT only when necessary will require a complex assessment and is beyond the scope of this workgroup.

7. In the revised LCR, systems should continue to be required to notify the primacy agency if they are making any long-term treatment change or addition of a new source. This section of the rule should be made clear that for copper, the system may be required to demonstrate that its finished water continues to be non-aggressive to copper (per 4 above).

8. Additional information needs to be gathered on the current distribution of pH, alkalinity, and phosphate residual among systems nationally to fully understand the implications of this approach.

3.6.2 Copper Compliance

Violations:

- Failure to implement public education, for PWSs that have not demonstrated their water chemistry is not aggressive to copper.
- Failure to maintain a monitoring program representative of the distribution system that demonstrates the system has water chemistry not aggressive to copper.
- Failure to provide notice to and, if required, consultation with the primacy agency, when a PWS makes a significant change in source or treatment (as in the current LCR).
- Failure to implement CCT or other risk reduction actions prior to CCT as determined by the primacy agency.

4 Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water

The LCRWG urges EPA not only to promulgate a revised LCR, but also to play a leadership role in educating, motivating, and supporting the work of other agencies, where EPA does not have the authority to act. The LTR LCR is very important. However, removing lead from drinking water systems and reducing exposure to lead from drinking water in the meantime will require renewed commitment, cooperation and effort by government at all levels and by the general public.

Specific recommendations for action in addition to the LTR LCR include (grouped generally by who might take such actions):

EPA Actions

- EPA working across all offices to take an integrated approach to action and education on lead from all sources (paint, air, site clean–up, etc.), with proper emphasis on lead in drinking water, especially in relation to the populations most vulnerable to this source (pregnant women, infants and young children). For example, OGWDW should coordinate with EPA's lead-based paint program so lead hazards are communicated consistently.
- Work with other federal agencies including HUD in terms of lead programs including but not limited to expanding federal funding from those programs to include lead service line replacement; HUD/DOT in terms of efficiency in possible coordination of lead service line replacement with road projects and other construction projects; and CDC in terms of childhood lead poisoning prevention, screening, and protection programs
- Enhanced cooperation with state, county, and local health departments to promote an integrated approach to childhood lead poisoning screening, prevention, and protection that emphasizes drinking water and its potential as a primary lead source (e.g. infants dependent on reconstituted formula).
- EPA needs to work with agencies at all levels of government to support financial assistance programs for LSL removal. Building costs into a PWS's capital budget planning should also be a consideration.
- EPA should include diverse perspectives in its stakeholder engagement programs, including affected consumers (who should not be required to be members of formal organizations), lead poisoning prevention/clean water advocates, EJ advocates, lead/copper corrosion experts, and

representatives from PWSs, States, and federal agencies with Healthy Homes and childhood lead poisoning prevention programs.

Other Federal Actions

- A federal tax deduction to support replacement of the customer portion of LSLs.
- EPA should work with CDC and HHS to ensure that the standard protocol for investigation of any child with elevated blood lead levels or of a home with lead levels above the HAL include determination of whether there is a lead service line.
- EPA should work with HHS and HUD to modify funding guidelines for the Healthy Homes and other federal funding programs to explicitly authorize and prioritize the use of those funds for lead service line removal programs targeting the privately owned portion of any lead service line. The current situation of having tens of thousands of dollars spent by a local Healthy Home or lead poisoning prevention program to remove lead paint, and leave behind a lead service line because of arbitrary funding guidelines is unacceptable.

State or Local Actions

- Local or state building and plumbing codes, including possibility of prohibiting copper plumbing where water is aggressive to copper.
- State Actions to support customer lead service line replacement, e.g.
    - State legislation requiring inspection or replacement on sale of home
    - Disclosure requirements at sale of home
    - Requirements for LSL removal as part of school and day care licensing
    - Building code requirements for LSL removal upon substantial renovation (could be national action as well)
    - Priority in DWSRF funding, especially if increased funding is available. (Criteria states might wish to consider include: PWSs where there is a high incidence of elevated BLLs for children, a high percentage of homes with LSLs, a high percentage of low income families, the PWSs prior efforts to replace LSLs, etc)[13]
- States should consider including requirements for lead in drinking water in state child care licensing rules.

Public Water System Actions

- Options EPA may want to describe in guidance and PWSs could consider include but are not limited to:
    a. Rate design considerations:
        i. Low rates for low volumes
        ii. Household size-based rates

[13] Good examples of programs which facilitate and enable private action include a Massachusetts program which provides a state income tax credit for the replacement of failing private wastewater treatment systems (septic tanks and leaching fields) coupled with a requirement for inspection and compliance with stricter rules upon property transfer; and many local housing rehabilitations programs funded by Federal Community Development Block Grants (CDBG) which provide low or no interest loans for health and safety related improvements, payable upon property transfer, often with loan sunsets where repayment is not required or the balance is reduced over a period of continued occupancy by an income-eligible homeowner. A similar loan program could be authorized by EPA under the Drinking Water SRF program.

b. Non-rate policies
    i. Budget billing
    ii. Fixture retrofits and plumbing assistance by the PWS
    iii. Service line replacement and insurance programs not provided by PWS
    iv. Direct assistance, emergency bill payment relationships
    v. Fixture retrofits and plumbing assistance by NGO organizations providing affordable housing
    vi. Subsidies including LSL / connection replacement costs associated with street, sidewalk, and other repairs not related to drinking water infrastructure
    vii. On-bill financing provided by the PWS
c. Funding guidance
    i. EPA's Financing for Environmental Compliance – Water
    ii. Tools for Financing Water Infrastructure
d. Funding sources beyond rate revenue:
    i. EPA's Drinking Water State Revolving Fund (DWSLF)
    ii. EPA Targeted Grants to Reduce Childhood Lead Poisoning
    iii. USDA's Water and Environmental Programs, U.S. Department of Agriculture, Rural Development
    iv. HUD's Community Development Block Grant Program – U.S. Department of Housing and Urban Development
    v. HUD Healthy Homes Technical Studies
    vi. HUD Office Healthy Homes and Lead Hazard Control Lead Hazard Reduction Demonstration Program
    vii. HUD Health Homes Initiative Lead Elimination Action Program
    viii. HUD Office of Healthy Homes and Lead Hazard Control Lead Hazard Control Lead Technical Studies Grant Program

- PWSs should educate and encourage partnerships with healthcare providers and health departments even when levels are below the AL.

<u>Research</u>

- Additional technical review and/or additional study is needed on how to conduct household and service line flushing to remove particulate lead.
- Published, peer reviewed research explaining that water in plumbing systems with leaded materials and LSLs can have sufficient levels of lead in the water to be a risk to those consuming the water. This paper is important to gaining support from the public health agencies and others and to placing water in context with other sources of lead.
- Considering that lead remains a complex issue and that research and information gaps still exist, the EPA should establish a Research and Information Collection Partnership to encourage the filling of these gaps in knowledge. The RICP should be initiated once the EPA begins working on the revised rule and continue for three years or more into the promulgation of the revised rule.
- The EPA and other agencies, such as the Water Research Foundation, should conduct research (such as bench scale and limited system case studies) to confirm the bins selected to define aggressive waters for copper. The bins are based on theory and need some level of confirmation prior to promulgating an actual regulation. This work can be done within the timeframe of developing a final rule.

5 Conclusion

The LCRWG appreciates the opportunity to provide these recommendations to the NDWAC, offers our thanks to the experts and members of the public who made presentations to the work group, and wishes particularly to acknowledge EPA for the extensive commitment of staff time and expertise to this process.

ATTACHMENT A

NDWAC Lead and Copper Working Group

Members
Christina Baker: Deputy Public Counsel, Office of the Public Counsel, State of Missouri
Leon Bethune: Director, Office of Environmental Health, Boston Public Health Commission
Gary Burlingame: Director, Bureau of Laboratory Services, Philadelphia Water
Marilyn Christian: Manager, Environmental Health Programs, Harris County Public Health
Matthew Corson: Manager, Environmental Compliance, American Water
Derrick Dennis: Water Quality and Data Management Section Manager, Office of Drinking Water, State of Washington
Stephen Estes-Smargiassi: Director of Planning, Massachusetts Water Resources Authority
Yanna Lambrinidou: Parents for Non-toxic Alternatives *[dissenting]*
Thomas G. Neltner: Environmental Defense Fund
John Sasur Jr.: Three Rivers Fire District, Massachusetts
Robert C. Steidel: Director Department of Public Utilities, City of Richmond Virginia
June Swallow: Chief, Division of Water Quality, Rhode Island Department of Health
Lynn Thorp: National Campaigns Director, Clean Water Action
Chris Wiant: President, Caring for Colorado
Nse Obot Witherspoon: Executive Director, Children's Environmental Health Network

Table 1: Elements of utility reports by dates in three-year cycle (*based on EPA adoption of rule in 2017)											
Action	2020*	2023	2026	2029	2032	2035	2038	2041	2044	2047	2050
Confirm broad and targeted education programs underway[1]	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.
Status of consumer sampling[2]	NA	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered	# done & # offered
Confirm communication of sampling results[3]	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.
Confirm operation policies in place[4]	Yes. If not, then explain	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.	Yes. If not, then explain.
Replacement Progress[5]	Initial Baseline	85% remaining	70% remaining	55% remaining	40% remaining	25% remaining	17% remaining	10% remaining	6% remaining	3% remaining	0% remaining
If replacement goals not met, number of checklist items confirmed completed (See Table 2)[6]	Basic requirements *[see Section 3.1.2]*	Basic requirements	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)	TBD (by EPA)

[1] See Section 3.1.2 (item 4 "targeted outreach" EPA to provide a checklist; PWS to contact customers with LSLs individually at least every three years and when there is a new customer at that address.

[2] Number of customers offered opportunity to conduct at-tap samples and number of samples taken.

Confirmation that results were provided to the customer. Number exceeding the household action level and confirmation that the results were submitted to health department. Maintain records for review by the primacy agency.

[4] Program to ensure that emergency, maintenance and renovation operations consider risks of disruption to service line increasing lead exposure to residents. .See Section 3.1.2 item 7 (operations).

[5] A service line is presumed lead unless installed after date installation of lead service line prohibited or records or tests by utility confirm entire service line is not lead. Confirming that a service line is not lead counts toward replacement progress.

[6] This is a two-fold concept, the details of which the LCRWG suggests be determined by EPA: 1) provide the PWS the flexibility to select outreach methods and other efforts appropriate to that community and 2) increase the number of required efforts to be completed if replacement goals are not met. See Table 2 for checklist of options for additional effort (in addition to the basic outreach requirements).

Table 2 Options (in addition to the basic outreach requirements) to be accomplished by utility if replacement progress goals in Table 1 not met.[1]		
Basic outreach requirements: • Individually notify customers with known or possible LSLs describing the risks of lead in drinking water, specifically inviting them to participate in the LSLR program, offering to have the customer's tap water analyzed, and clearly describing the terms of the program and how to follow up. If the customer does not respond or chooses not to participate, the PWS must follow up with another invitation at least every three years and always when there is a new customer at that address. (see Section 3.1.2 for additional details) • Provide a written offer to replace the LSL when work is being done on the water main in the street (with the same information above).		
Resident engagement	System policies	Other
1. Notice to new customers of need	1. Plumbing code requires full replacement if service line will be disturbed.	1. Local health agency contact with resident.
2. Written offer to replace when main in street rehabbed (customer pays)	2. Grants or low-interest loan funds identified to cover customer costs sufficient to maintain progress for period.	2. Local health agency funding for removal as part of remediation
3. Written offer to volunteer (customer pays)	3. Financing options such as liens on home provided to customers or tax deductions for property owner costs.	3. Media campaign launched
4. Written refusal from customer(s)	4. MOU or other arrangement to implement notification of customers/property owners by other utilities about replacement options if LSL is disturbed	4. Homeowner association(s) send letters to members supporting replacement.
5. Certified letters sent	5. Capital improvement plans target system pipe rehab and replacement to areas with more LSLs	5. Real estate organizations notified of requirement for replacement of LSL on sale or transfer of title
6. In-person call or visit made	6. Service line insurance program revised to include replacement LSLs if damaged or leaking	6. Cooperative outreach efforts with non-profits
7.	7. More aggressive flushing in areas with LSLs to manage iron related lead particles	7. Coordinated outreach with WIC
8.	8.	8. Outreach to plumbers/contractors
9.	9.	9. Outreach to ob/gyns and pediatricians
10.	10.	10. Local ordinance requiring inspection/notification/replacement of LSLs upon sale or transfer of title
11.	11.	11. LSL identification added to home inspector standard operating procedures
12.	12.	12.
[1] EPA will provide guidance on the options and update them periodically as best practices evolve.		

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 16, 2015 5:20 PM
To: Pallone, Maggie (DEQ);Wurfel, Brad (DEQ) (WurfelB@michigan.gov)
Cc: Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov);Sygo, Jim (DEQ) (SygoJ@michigan.gov);Richard Benzie P.E. (BENZIER@michigan.gov);Wyant, Dan (DEQ)
Subject: RE: Draft FAQ
Attachments: FAQ-Flint Customer Tap water lead levels-draft.docx

A draft FAQ document as requested is attached for editing and comment.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

Frequently Asked Questions about Customer Tap water lead levels in the City of Flint - DRAFT

How was the Lead and Copper Rule Established?
Under the Safe Drinking Water Act, EPA sets public health goals and enforceable standards for drinking water quality. The Lead and Copper Rule is a treatment technique rule. This was done because lead contamination of drinking water often results from corrosion of the plumbing materials belonging to water system customers. Instead of setting a maximum contaminant level (MCL) for lead or copper, the rule requires public water supplies to take certain actions to minimize lead and copper in drinking water, to reduce water corrosivity and prevent the leaching of these metals from the premise plumbing. When that isn't enough to replace lead service lines under their control. The current rule sets an action level (AL) which is not the same as an MCL. An MCL is based on health effects and feasibility; whereas an AL is a screening tool for determining when certain treatment technique actions are necessary.

What is the source of lead in customer tap water?
Lead enters or leaches into water from lead service lines, lead service line pipe, lead solder, and leaded plumbing materials including fixtures, faucets, and fittings.

How is lead compliance determined?
Compliance with the Action Level (AL) is based on a 90^{th} percentile level calculation. For example, if 100 compliance samples were collected, the 90^{th} percentile would be based on the result of the 11^{th} highest lead sample for that monitoring period. Therefore, if more than ten percent of these compliance samples report lead above the AL of 15 parts per billion, a water supply has an AL exceedance. An exceedance is not a violation. It triggers other requirements which could include public notification, additional water quality sampling, and possibly further treatment.

What is the frequency of lead and copper sampling?
Sampling rounds can be as frequent as every six months to as little as once every three years. Reduction in sampling frequency is based on continued compliance with the Action Level and normally follows a progression of two six month rounds, followed by annual sampling for three additional years, then one round every three years. For six month rounds compliance samples can be collected any time during that period. When sampling is conducted annually or once every three years, all compliance samples are required to be collected between June 1 and September 30. This is done to capture warmest water conditions likely to produce the most leaching.

Why are customers asked to collect lead and copper samples?
Compliance sampling for lead requires the water to, "have stood motionless in the plumbing system of each sampling site for not less than six hours." In order to achieve this requirement, residents are provided with detailed instructions and requested to collect the sample generally as the first thing they do when they wake up in the morning. It would be difficult for City water staff to otherwise collect such samples within the limits of the monitoring period.

How long has the City of Flint conducted lead monitoring?
The City of Flint first began compliance monitoring for lead levels in customer taps as part of the Detroit Water and Sewerage Department (DWSD) consecutive system in January 1992 following the enactment of the Lead and Copper Rule. Two six month rounds were collected in 1992. Sampling resumed with two six month rounds in 1997 following the installation of Optimized Corrosion Control Treatment by DWSD. A six month round was collected in 1998 and again in 1999. Annual sampling was completed in 2000, 2001, and 2002. Then triennial sampling was completed in 2005, 2008, and 2011 before the City of Flint changed sources and treatment in May 2014.

Has the City's compliance monitoring ever exceeded the lead action level?

No. While some individual samples do exceed the 15 part per billion (ppb) lead Action Level (AL), the AL is not a standard. Compliance is determined based on the 90th percentile value of all valid compliance sample results obtain during the established monitoring period. The City of Flint 90th percentile level has ranged between 0 ppb (2008 and 2011) and 15 ppb (1992), but never exceeded the AL. This includes the two most recent six month rounds in 2014 and 2015 of 6 ppb and 11 ppb, respectively.

Why are some samples not included in the compliance determination?
Lead and Copper compliance sample sites must meet specific Tier requirements that target customers with the highest potential for lead leaching. The sample must also be collected from a commonly used kitchen or bathroom tap, and in accordance with the provided sampling instructions. Customers that employ certain types of additional treatment are not allowed as such samples may not be representative of water quality supplied by the water system. Samples must also be collected within the established monitoring period.

What is the timeline for installation of corrosion control treatment?
Under the Lead and Copper Rule treatment technique requirements, steps to complete the installation of optimal corrosion control treatment and follow-up monitoring are allowed to take up to five years. The City of Flint has committed to completing installation of optimal corrosion control treatment in less than six months.

What will happen when Flint obtains water from the Karegnondi Water Authority?
The City has committed to having Optimized Corrosion Control Treatment in place prior to its connection with the Karegnondi Water Authority (KWA). The water provided by KWA will come from a new source, Lake Huron. This change in source will require the City to return to two six month rounds of lead and copper sampling and continued compliance with the Action Levels. The City of Flint water treatment plant will continue to operate with uninterrupted Optimized Corrosion Control Treatment.

When is customer and public notification required?
Under the Lead and Copper Rule, public water supplies are required to provide individual lead results to those customers whose homes are sampled for compliance with the action level. Each of these customers is also provided information on actions they can take to limit lead exposure in their tap water. Furthermore, results from the most recent lead compliance monitoring determination are included each year in the annual consumer confidence report (CCR), also known as the annual water quality report that each water system must provide to all customers. As required by EPA, this report also includes general consumer awareness information regarding lead.

How can I reduce lead in drinking water at home?
Flush your pipes before drinking, and only use cold water for consumption. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" your cold-water pipes by running the water until it becomes as cold as it will get. This could take as little as five to thirty seconds if there has been recent heavy water use such as showering or toilet flushing. Otherwise, it could take two minutes or longer. Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. The two actions recommended above are very important to the health of your family. They will probably be effective in reducing lead levels because most of the lead in household water usually comes from the plumbing in your house, not from the local water supply.

How long would it take to replace lead service lines across Flint?

The City has approximately 32,900 service connections in total. Over 15,000 of these connections are considered lead service lines. Even if many crews were contracted it would still take several years complete this work.

What will it cost to have lead service lines replaced?
Average costs have ranged from $2,000 - $8000. Cost will vary depending on the length and size of service line that is needed, as well as the ground cover and soil conditions encountered.

With over 15,000 lead service lines at an estimated cost of $4,000 for each replacement, a total cost could be over $60 million.

Who is responsible for replacement of leaded materials?
Replacement of service pipes on private property and any leaded plumbing materials within the building structure is the homeowner/property owner's responsibility. The City of Flint owns the service pipe from the water main to the curb stop valve. This valve is normally located two feet in from the street curb.

Why doesn't the City at least replace their portion of lead service lines?
Partial lead service line replacement has been shown to exacerbate lead exposure, increasing the potential for harm, rather than reducing lead exposure risk. Only full lead service line replacement has been demonstrated effective in achieving long-term reductions in drinking water lead levels.

How does blood level monitoring relate to customer tap water monitoring?
Monitoring of lead blood levels takes into account all sources of lead exposure, not just exposure through drinking water. Water customers who have elevated levels of lead in their tap water, or who have lead service line or household leaded plumbing materials are encouraged to be screened for blood lead level monitoring through their local county health department.

Lead blood level monitoring is overseen statewide by the Michigan Department of Health and Human Services. Their review of lead blood testing results for the 12 month period just after the City of Flint changed its water source (May 2014 – April 2015) showed no significant change in the pattern of lead blood levels in comparison with levels reported for the previous three years. This suggests the recent changes in source and treatment by the City of Flint water system have not increased lead exposure.

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 30, 2015 1:14 PM
To: Pallone, Maggie (DEQ);Wurfel, Brad (DEQ) (WurfelB@michigan.gov);Wyant, Dan (DEQ)
Subject: FW: Technical Advisory Meeting

FYI.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, September 30, 2015 1:01 PM
To: Brent Wright; Dayne Walling; donna. cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; James Henry; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Michael Wright; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Warren Green; Busch, Stephen (DEQ); lytle.darren@epa.gov; Amy Hovey; Andy Leavitt; James Gaskin
Subject: Re: Technical Advisory Meeting

Team,

I am writing to again confirm our meeting which is scheduled for next Wednesday October 7th at 2:00 pm. We have decided to hold the meeting at City Hall but due to rapidly evolving events I will wait until early next week to put out an agenda. In general, we expect to update the most recent water status in order to get everyone on the same page, and then have a targeted agenda that points at both a short term and long term goals.

In staying consistent with our other meetings we anticipate a full sharing of information along with open discussion and a clear direction going forward. Darren Lytle of the EPA has committed to being at the meeting and Marc Edwards of Virginia Tech has agreed to call in.

Please email me if there are any questions.

Thank you,

On Wed, Sep 23, 2015 at 3:52 PM, Howard Croft <hcroft@cityofflint.com> wrote:

Technical Advisory Team,

I am writing to inform everyone that we have scheduled the next Technical Advisory Committee meeting to be Wednesday October 7th, 2015 from 2:00 – 4:30 pm. We are extending invitations to Marc Edwards of Virginia

Tech along with two lead experts from the EPA (Darren Lytle & Michael Schock) to become a part of the technical team and we are hopeful that they will all be present at the upcoming meeting.

At the meeting we will discuss an overview of the City water system, compliance with the Safe Drinking Water Act, lead concerns, corrosion control, water testing, public education, capital improvement plans, the KWA pipeline, and next steps.

I will forward a specific location and agenda in the near future but we are firmly committing to the time and date. As with previous meetings we look forward to this group having positive dialogue that will benefit the community.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

From: Busch, Stephen (DEQ)
Sent: Wednesday, December 09, 2015 2:47 PM
To: Sygo, Jim (DEQ) (SygoJ@michigan.gov);Wyant, Dan (DEQ);Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov);Richard Benzie P.E. (BENZIER@michigan.gov);George Krisztian (krisztiang@michigan.gov);Wurfel, Brad (DEQ) (WurfelB@michigan.gov)
Subject: FW: Phosphate Feed System

FYI. Flint's additional corrosion control inhibitor feed is now up and running. As a reminder this is on top of the corrosion inhibitor already present in the water purchased from DWSD.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Brent Wright [mailto:bwright@cityofflint.com]
Sent: Wednesday, December 09, 2015 2:37 PM
To: Prysby, Mike (DEQ)
Cc: Rosenthal, Adam (DEQ); Busch, Stephen (DEQ); Michael Glasgow; Natasha Henderson
Subject: Phosphate Feed System

Mike,

As of 1:45pm today the Phosphate feed system at the Water Plant is up and running. The feed rate is set at 2.5mg/l as PO4-3. If you have any questions please give me a call.

Thank you.

--
Brent Wright
Water Plant Supervisor
City of Flint
4500 N. Dort Hwy.
Flint, MI. 48505
Ph: 810.787.6537 ext. 3510
Fx: 810.787.3710

From: State Representative Stephanie Chang <stephaniechang@house.mi.gov>
Sent: Thursday, June 04, 2015 2:07 PM
To: stephaniechang@house.mi.gov
Subject: Capitol Update and Community Events

MICHIGAN HOUSE DEMOCRATS

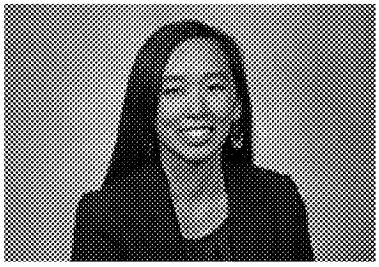
STATE REPRESENTATIVE

STEPHANIE CHANG

June 4, 2015

Friends,

Below are some updates about the water affordability and safety training I co-convened at the Capitol this week, recent votes on the state budget and announcements about upcoming events in District 6!



I'm here to help:

Phone:
(517) 373-0823

Toll Free:
(844) 672-4264

Email

Water Affordability and Safety Hearing

On June 3, together with Representatives Sheldon Neeley and LaTanya Garrett, I convened a hearing at the State Capitol on water affordability and safety. We heard testimony from residents of Detroit, Flint and Highland Park about the Michigan water crisis. Thousands of shut-offs in Detroit and the water quality issues in Flint have led to serious public health concerns for our most vulnerable residents. This hearing was not only an important step to raise awareness about water affordability and quality issues, but also an opportunity to move toward legislative action regarding the human right to safe, clean and affordable water, shut-off protections, and transparency.

Since January 2013, more than 53,000 Detroit residents have had their water and sewerage service terminated. Around 15,000 homes have had this service restored. There is financial assistance available, but many on this assistance are still behind

on their payments. In April 2014, Flint switched from the Detroit water system to its own system that draws water from the Flint River. Since then, residents have put up with water that tastes and smells strange, high E-coli levels that forced boil water advisories, skin rashes and hair loss. Flint residents have also faced issues relating to Total Trihalomethane monitoring and acceptable levels for safe consumption.

We need to ensure that our communities have safe, drinkable and affordable water. People going without water or not being able to drink what comes out of the tap is unthinkable. My colleagues and I are committed to sharing the stories we heard today with other legislators and working on ways to ensure that what's happened to these communities never happens again anywhere in Michigan.

State Budget Update

On Wednesday, the State House voted on the omnibus budget. I had some concerns about specific items in the budget, but overall, I believe there are significant positives that will help residents in District 6. That is why I voted yes. The major concerns I had were 1) the closing of the Maxey Boys Training School, 2) the lack of funding for cancer presumption for firefighters, and 3) the closing of DHS offices. However, there were some incredibly important positives in this budget for our residents, such as 1) restoration of Detroit revenue sharing which will help Detroit fund police, firefighters and other critical services; 2) increased funding for the Healthy Michigan Plan; 3) set aside funding for career and technical education; 4) expansion of the Healthy Kids Dental program; and 5) no cuts to funding for Graduate Medical Education as we had feared before. This vote was a tough choice for me, as this was not by any means a perfect budget, however, the significance of the many positives in this budget ultimately helped me to make this choice to vote yes on the omnibus budget.

We also voted on the school aid budget, which will provide estimated foundation allowance increases for all school districts. In District 6, Detroit Public Schools will see a $138 per student increase, Ecorse Public Schools will see a $127 per student increase, and River Rouge Public Schools will see a $70 per student increase. This is great news for students in our district! There is also significant funding in the school budget for third grade reading efforts and a significant increase in "at-risk" funding.

June 11 Expungement/Parole Readiness Workshop

On **Thursday, June 11, from 6 – 8 p.m. at the Detroit Hispanic Development Corporation, 1211 Trumbull St. in**

Detroit, we will hold an expungement and parole readiness workshop. This is an opportunity for those with family members and loved ones to learn about how to help them get prepared for parole board interviews and make a strong case. We will also have services on hand to help formerly incarcerated individuals who are eligible apply for expungement of their criminal records. Registration is not required but preferred – call (313) 841-2240.

Summer coffee hours

Pine Grove Baptist Church
1833 Electric St. Detroit
Saturday, June 6 from 9-10:30 a.m.

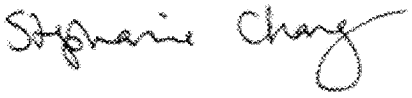
Telegram - River Rouge
10748 W. Jefferson Ave.
Monday, June 15 from 5-6:30 p.m.

Café con Leche
4200 Vernor Highway
Friday, July 3 from 9-10:30 a.m.

Red Hook Café in West Village
8025 Agnes St.
Friday, July 17 from 4:30-6 p.m.

I hope to see you at one of my upcoming coffee hours! Please come by to share your ideas, questions and concerns and hear updates on legislation and work my office is doing in District 6. As always, do not hesitate to contact my office anytime at (517) 373-0823 or stephaniechang@house.mi.gov. Happy Summer!

Sincerely,



State Representative Stephanie Chang
6th House District

Unsubscribe from this newsletter

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From: Brader, Valerie (LARA)
Sent: Thursday, October 01, 2015 11:21 AM
To: Wyant, Dan (DEQ)
Cc: Redford, James (GOV)
Subject: RE: ACLU and Flint Water (Correction)
Attachments: Michael Steinberg.vcf

WRONG CELL. Sorry Dan, was copying wrong number of my cell phone. Here is Mike's contact card.

Michael Steinberg
American Civil Liberties Union

+1 (313) 578-6814 Work
PPI
+1 (734) 663-4154 Home
msteinberg@aclumich.org
60 W. Hancock
Detroit, MI 48201
United States of America

From: Brader, Valerie (LARA)
Sent: Thursday, October 01, 2015 11:12 AM
To: Wyant, Dan (DEQ)
Cc: Redford, James (GOV)
Subject: ACLU and Flint Water

Dan – FYI. I used to commute to Detroit with Mike Steinberg, who is head of litigation for the ACLU in Michigan. He just called to say they may be getting involved with the Flint case to see if they can force Flint to go back to DWSD. He wanted to call and see if I was involved so they could have a conversation before they come in. I said I had no more involvement and said he should talk to you – that I would let you know and give him your number. He is pretty straight-up in terms of letting you know where they will go and you can trust him if there is a settlement discussion to play it straight. That said, he has been with the ACLU for years, so you know where they are likely to be and be able to go. His cell number is PPI

--Valerie

Valerie J.M. Brader
Executive Director, Michigan Agency for Energy
Office: 517-284-8335
braderv@michigan.gov

MI Energy
Michigan Agency for Energy

Full Name:	Michael Steinberg
Last Name:	Steinberg
First Name:	Michael
Company:	American Civil Liberties Union
Business Address:	60 W. Hancock Detroit, MI 48201 United States of America
Business:	+1 (313) 578-6814
Home:	+1 (734) 663-4154
Mobile:	+1 (313) 570-8622
E-mail:	msteinberg@aclumich.org
E-mail Display As:	Michael Steinberg (msteinberg@aclumich.org)

Michael Steinberg
American Civil Liberties Union

+1 (313) 578-6814 Work
+1 (734) 663-4154 Home
msteinberg@aclumich.org
60 W. Hancock
Detroit, MI 48201
United States of America

From: Karen Teeples <K_TEEPLES@gcdcwws.com>
Sent: Thursday, October 01, 2015 2:43 PM
To: Wyant, Dan (DEQ)
Subject: info to expedite KWA construction
Attachments: bulletpoints-Oct2015-KWAconstruct.docx

Per your conversation with Jeff Wright, find attached the document I spoke to you about.
Karen

POTENTIAL WAYS THE STATE MIGHT BE ABLE TO HELP KWA EXPEDITE PIPELINE CONSTRUCTION

1. Eliminate frost law restrictions (this would add two months of construction)

2. Additional financing:
   - Contracts have been let

   Reason:
   - Need cash to allow subcontracts
   - Need cash to expedite pipe production
   - Funding can come through mega or warrants to pipe manufacturer or additional rules on DWRF/SRF
   - Funding could come from the roadway funding as direct grants to local road commission to free up funds for pipeline work

3. Act 233 Agencies – State Permit – similar to public schools

   Reason:
   - Projects bigger than local community
   - Public safety of the larger community outweighs local politics
   - Big project – locals not equipped to handle
   - Benefits KWA – GLWA and others

4. State aid to local road commissioners' public right-of-way

   Reason:
   - Project is outside their ability to cope/handle
   - KWA could concentrate on building pipeline; local road commission could concentrate on clean-up

5. a. Clear requirements on road replacement/road repairs and utilities use of right-of-way
   b. No <u>at will</u> permits
   c. RC liable for shut downs for convenience
   d. Public utilities need not get local site plan and/or waivers

From: Karen Teeples <K_TEEPLES@gcdcwws.com>
Sent: Thursday, October 01, 2015 2:45 PM
To: Wyant, Dan (DEQ)
Subject: info about KWA construction
Attachments: bulletpoints-Oct2015-KWAconstruct.docx

Mr. Wyant,
John O'Brien, Director of Water and Waste Services, would like you to call him directly if you have any questions. His cell phone # is 810-964-7584.
Thanks.
Karen

POTENTIAL WAYS THE STATE MIGHT BE ABLE TO HELP KWA EXPEDITE PIPELINE CONSTRUCTION

1. Eliminate frost law restrictions (this would add two months of construction)

2. Additional financing:
   - Contracts have been let

   Reason:
   - Need cash to allow subcontracts
   - Need cash to expedite pipe production
   - Funding can come through mega or warrants to pipe manufacturer or additional rules on DWRF/SRF
   - Funding could come from the roadway funding as direct grants to local road commission to free up funds for pipeline work

3. Act 233 Agencies – State Permit – similar to public schools

   Reason:
   - Projects bigger than local community
   - Public safety of the larger community outweighs local politics
   - Big project – locals not equipped to handle
   - Benefits KWA – GLWA and others

4. State aid to local road commissioners' public right-of-way

   Reason:
   - Project is outside their ability to cope/handle
   - KWA could concentrate on building pipeline; local road commission could concentrate on clean-up

5. a. Clear requirements on road replacement/road repairs and utilities use of right-of-way
   b. No <u>at will</u> permits
   c. RC liable for shut downs for convenience
   d. Public utilities need not get local site plan and/or waivers

From: Shaler, Karen (DEQ)
Sent: Friday, October 02, 2015 10:47 AM
To: Wyant, Dan (DEQ);Tommasulo, Karen (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Press Conference Talking Points
Attachments: Flint Drinking Water Press Conference 10-2-15.docx

Please see attached.

Talking Points
Press Conference on Flint Drinking Water
Kettering University, Flint
October 2, 2015

Dr. Marc Edwards

- Appreciate that he has brought attention to the issue.
- He deserves credit for bringing attention to the issue.
- At issue is lead exposure: This must be addressed.
- Actions outlined today address public safety and confidence in the water.

Was it a mistake?

- We draw water from the surface.
- Treat it to safe drinking water standards.
- At issue is lead exposure.
- Issue must be addressed.
- Actions are being taken.

Did you put kids at risk?

- Lead exposure is a serious issue, and steps need to be taken to eliminate exposure.
- We stay committed to working in partnership with the United States Environmental Protection Agency and locals.
- Susan Hedman, Regional Administrator, Region 5
- Tom Burke, EPA's Office of Research and Development

This is a serious issue.

- There should not have been any disrespect or discredit.
- For any of that, I apologize.
- I have to take responsibility for letting that happen – I am addressing it.

Miguel Del Toral Memo

1. Technical assistance
2. Additional corrosion controls
3. Additional sampling
4. Review of our protocols and our actions incorporate his recommendations

- What was discussed was: "No longer providing corrosion controls"
- Absence of corrosion controls
- There are multiple corrosion control technologies

- I am asking that we use consistent protocols and am looking to EPA for guidance.
- I have been in discussions with Susan Hedman.
- I don't know the answer to that, but I will get you an answer.
- I have staff who knows.

Why did it take so long?

1. We, the DEQ, have been there from the beginning addressing the issue of Flint water – compliance.
2. Recent 2nd round test results justify and require these actions.
3. These steps are intended to address the short- and long-term and ensure public safety and confidence.

This is a serious issue.

- We are addressing the issue.
- Go to work!
- Fix the problem!

From: Pallone, Maggie (DEQ)
Sent: Sunday, October 04, 2015 1:07 PM
To: Wyant, Dan (DEQ)
Cc: Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);MPattwell@ClarkHill.com
Subject: DELIBERATIVE and CONFIDENTIAL: questions on flint

Here are my follow up questions after last week. Hoping we can discuss next steps and follow up with the team.

PS Looping Mike into this for some legal aspects for him to review.

If it wasn't a new source requiring a permit to switch, why did we treat it as a new source for treatment option?

What are our next steps on speeding up KWA? Whose is this to do and who do we need to reach out to?

We have said we will work towards the long term solution for Flint's aging infrastructure. Should we put in a budget request? Political issues

Can we use any of the remaining bond money to create a new grant program for drinking water?

Who is attending the Oct. 7 technical advisory committee?

What steps does Flint need to do to get a permit into us for corrosion control? Have we clearly communicated this to them? Who can provide the technical assistance to Flint to accomplish this?

Has Flint ordered the orthophosphate and other supplies they need to start treating the water? If not, can we assist them in this?

If they switch back to DSWD what are steps and is there ANY involvement from DEQ?

We have committed to moving from compliance testing to monitoring testing? George will be coordinating this testing I am assuming. How quickly can we pull our team together and put our recommended plan in place? Do we need to add staff to our budget request and also request a supplemental? Or could we do a 3rd party contract?

I told Kildee and Ananich that we put all of our testing results online. Who can be assigned to help put it in a user friendly format and get it online? Can we ask DTMB to help with this?

What other information do we need to be make transparent and publically available?

What is ODWMA recommendation for additional testing on the compliance side?

We keep saying that first flush represents a more accurate assessment of the drinking water, and I believe this to be true if we are trying to monitor the drinking water system as a whole, but how can we monitor or test the actual lead exposure the residents may have been experiencing? Do any of the tests allow for a first draw sample?

How should we coordinate with the schools and get the information out that all schools (at home day cares all the way to the U's) can be tested? I am not sure that was clear from the press conference? Can these test results go online?

How should we characterized the initial sampling results from schools and how soon can we get into the schools to do the full EPA guidance testing? Perhaps just that "initial sampling indicated x, but we will go in the next couple of weeks to do full scale testing per the EPA guidance for schools."

Are there drinking water staff that we can pull from other districts or from the central office that can start assisting in actual testing?

Maggie

Maggie Pallone
Deputy Director
Policy and Legislative Affairs
Department of Environmental Quality
517-599-6190 (cell)
PalloneM@michigan.gov

From: Shaler, Karen (DEQ)
Sent: Tuesday, October 06, 2015 5:07 PM
To: Wyant, Dan (DEQ)
Subject: FW: Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED

FYI

From: Shaler, Karen (DEQ) **On Behalf Of** Wyant, Dan (DEQ)
Sent: Tuesday, October 06, 2015 5:05 PM
To: Scott, Allison (GOV); Muchmore, Dennis (GOV); Agen, Jarrod (GOV); Dickinson, Sarah (GOV)
Subject: Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED

The Flint Drinking Water Action Plan was announced on October 2, 2015. It included the following:

- Testing in Flint public schools immediately
- Offered free water testing to Flint residents
- Provided free water filters to residents with concerns or who are included in state assistance programs
- Expanding health exposure testing of individual homes
- Accelerating corrosion controls in the Flint drinking water system
- Accelerating water system improvements to address replacing lead service lines
- Expediting the completion of the Karegnondi Water Authority pipeline
- Expanding a Safe Drinking Water Technical Advisory Committee
- Named Dr. Eden Wells as the Flint drinking water public health advisor
- Boosted a comprehensive lead education program

Testing in Flint Public Schools Immediately

Samples were taken on October 2 and were received at DEQ laboratory over the weekend. Test results to date indicate 37 samples tested, 4 of which exceeded a federal action level, and 1 of those 4 was a significant outlier. We will be compiling detailed information about which schools and area codes the test results came from and will be providing that information in our next update.

We have met with DHHS, and we are working on developing response protocols, a communications plan, and guidance for schools when this data is reported.

Offered Free Water Testing to Flint Residents

We have received 4 sets of samples from Flint that represent individual residents. We will be compiling the total number and the results of those samples and reporting in a future report.

Provided Free Water Filters to Residents with Concerns or Who are Included in State Assistance Programs

DHHS held organizational meetings in Flint on October 5, and filter distribution by DHHS started on October 6. Nick Lyon in DHHS is taking the lead in filter distribution.

Expanding Health Exposure Testing of Individual Homes

Dr. Wells and Dan Wyant have been in conversations about a protocol for exposure testing. Dr. Wells will take the lead on developing the protocol.

Accelerating Corrosion Controls in the Flint Drinking Water System

A conference call was held with U.S. EPA Regional Administrator Susan Hedman and national corrosion control experts. We asked two questions:

1. **Which is a safer water source – DWSD or Flint River?**
2. **If you don't have an opinion on the safer source, what criteria should we use for an evaluation?**

EPA staff would not commit to a preference, but their evaluation of the criteria clearly lead to the conclusion that DWSD was a safer water source. EPA committed to submitting technical assistance to the Safe Drinking Water Technical Advisory Committee (Advisory Committee) meeting, which will be held on October 7 at 2:00 p.m. in Flint City Hall.

DEQ met with the Flint Mayor, the city manager, and their water staff. Flint agreed to expediting corrosion controls. We discussed the agenda for the Advisory Committee meeting. The Advisory Committee will be asked to evaluate two respective water sources at their Wednesday meeting.

We expect the Advisory Committee to recommend the water source that would address not only lead safety but also other water safety issues.

Accelerating Water System Improvements to Address Replacing Lead Service Lines

Conversations with Congressman Kildee and EPA have clarified the state would be allowed to use Drinking Water Revolving Loan funds to replace private drinking water service lines. Senator Ananich has been approached to introduce language clarifying the state's authority.

Expediting the Completion of the Karegnondi Water Authority Pipeline

Dan Wyant has talked to Genesee County Drain Commissioner Jeff Wright. Mr. Wright has provided a list of issues that would help expedite the completion of the Karegnondi Water Authority pipeline. They include truck weight and frost law exemptions, talent identification, and expediting permits.

Expanding a Safe Drinking Water Technical Advisory Committee

EPA has appointed their national technical expert to the Advisory Committee, and we have appointed Alfred Franzblau, M.D., Professor of Environmental Health Services, University of Michigan, to the Advisory Committee.

Named Dr. Eden Wells as the Flint Drinking Water Public Health Advisor

Boosted a Comprehensive Lead Education Program

Other Updates

- Dan Wyant was interviewed on October 6 by CBS Evening News during filter distribution in Flint. Questions asked were:
    - Was it a mistake to go to Flint River water?
      Answer: We draw water from the surface waters; we treat it to safe drinking water standards. At issue is lead exposure. Lead exposure must be addressed. Actions are being taken to address the issue.
    - Did you put kids at risk?
      Answer: Lead exposure is a serious issue, and steps need to be taken to limit lead exposure.
    - Why did it take so long?
      Answer: DEQ has been there from the beginning addressing the issue of Flint water. Recent tests justify and require the actions taken. Action steps address short-term, intermediate, and long-term lead issues to ensure public safety and confidence of the drinking water.

- Dan Wyant also spoke to the Governor about Flint funding needs. A meeting is scheduled for October 7 at 8:00 a.m. to further discuss proposals.
- What we are telling Flint citizens is:
    - Have your water tested
    - Use only cold water for drinking, cooking, and preparing formula
    - Run water before use if it has not been used for several hours
    - Obtain a water filter approved for lead removal
    - Purchase lead-free plumbing components
    - Remove entire lead service lines

From: Hollins, Harvey (GOV)
Sent: Wednesday, October 07, 2015 5:13 PM
To: Wyant, Dan (DEQ)
Cc: Muchmore, Dennis (GOV);Agen, Jarrod (GOV)
Subject: Flint.pdf
Attachments: Flint.pdf; ATT00001.htm

Per your request. This is the first of three emails with attachments. It is important to note that council did not take a vote to use Flint river. DWSD terminated the contract in April 2013 after the March 2013 vote which gave Flint one year left to use DWSD. The decision to use Flint river was made April 2014 instead of paying the cost to continue on DWSD until KWA was online.

EM SUBMISSION NO.: 2013EM041

PRESENTED: 3-28-13

ADOPTED: 3-29-13

BY THE EMERGENCY MANAGER:

RESOLUTION TO PURCHASE CAPACITY FROM KAREGNONDI WATER AUTHORITY

The Karegnondi Water Authority (KWA) is a governmental consortium of cities and counties in southeastern Michigan that was created to build a water pipeline that will provide water from Lake Huron to interested communities in Sanilac, Lapeer, and Genesee counties. The incorporating bodies that created the KWA are Sanilac County, Lapeer County, Genesee County, the City of Flint, and the City of Lapeer.

The City of Flint is currently in a year to year contract with the City of Detroit for the purchase of water. A study was conducted that projected that staying with Detroit will cost the region $2.1 billion over the next 25 years. In contrast, if the region builds its own pipeline, the projected costs are $1.9 billion over the same period. After the initial 25 year period, the projected costs would be less then 25% of the projected water costs from Detroit.

In order to build the pipeline, the KWA needs commitment from its members regarding the capacity that each member will purchase in the pipeline. The KWA is allowed to withdraw 85 million gallons of water per day. Capacity is available to members in increments of 1 million gallons per day known as units. For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one time fee of $32,300.00. Additionally, the buyer shall pay to the KWA not less then $32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount not to exceed $355.300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed $355,300.00 the buyer has a right to cancel the contract.

The purchase of capacity along with the payment of other costs necessary to operate the pipeline gives the member a right to water for sale to its customers. The buyer has a right to resell capacity and water rights. Each party entering into a capacity contract shall also be entitled to appoint additional board members equal to the party's percentage share of the total capacity under contract.

It is in the long term best interests of the City of Flint to enter into a contract with the KWA to purchase up to eighteen (18) units of capacity.

IT IS RESOLVED that City officials are authorized to enter into a contract with KWA to purchase up to eighteen (18) units of capacity.

IT IS FURTHER RESOLVED that the City Administrator is authorized to provide KWA information needed to administer the contract and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract.

APPROVED AS TO FORM:

Peter M. Bade, City Attorney

APPROVED AS TO FINANCE:

For **Gerald Ambrose, Finance Director**

EM DISPOSITION:

ENACT 1 **FAIL** _____ **DATED** 3-29-13

Edward L. Kurtz, Emergency Manager

S:\P. Bade\EM2013\Resolutions\KWA.03.28.13.doc

Flint

Flint City Council approves resolution to buy water from Karegnondi, state approval still needed



[http://connect.mlive.com/staff/dadams1/index.html] By Dominic Adams | dadams5@mlive.com [http://connect.mlive.com/staff/dadams1/posts.html]
Follow on Twitter [http://www.twitter.com/dominicadams]
on March 25, 2013 at 10:45 PM, updated March 26, 2013 at 1:28 AM

FLINT, MI – Flint is one step closer to getting its water from Lake Huron as part of the Karegnondi Water Authority.

The vote, **approved 7-1 at the Flint City Council meeting Monday, March 25 [http://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_again_delay.html]** , may have set in motion the end to Flint paying to get its water from Detroit.

Under the proposal, Flint would get 16 million gallons per day of raw water from Lake Huron, pipe it to Flint for treatment and then sell it to customers throughout the city. Another 2 million gallons per day would come from the Flint River and will be treated in Flint.

Mayor Dayne Walling said the Department of Environmental Quality must approve Flint's getting 2 million gallons per day from the Flint River.

Tuesday's meeting followed weeks of discussions and special meetings surrounding the resolution.

"We got there," Councilman Joshua Freeman said. "That's the important thing."

There were more than 50 people at Monday's meeting.

"Going with Karegnondi is the best decision. We have no opinion on the economics of the decision," said Rebecca Fedewa, Flint River Watershed Coalition executive director. "If we start drawing water out of the Flint River, we are at risk of having to start releasing water from our reservoirs."

Genesee County Drain Commissioner Jeff Wright said the decision must still be approved by a county water and waste advisory board. The KWA board will then be reconvened for final approval.

Wright said construction could start in May.

State treasury officials still must approve the city council's move because Flint has an emergency financial manager. All expenditures over $50,000 must be approved.

Genesee County Drain Commissioner Jeff Wright has said that Flint would pay roughly $6.4 million annually for water service if it joined the pipeline – a nearly $4 million savings on what it pays Detroit for water.

Walling previously said the **city would save $19 million over eight years [http://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_delays_deci.html]** by getting water from the KWA.

"It's a historic night in the City of Flint," Walling said. "The savings will be less with the capacity level approved by city council because there will be increased treatment cost for the river water."

He said the DEQ told the city it needed to get 18 million gallons per day or there would have to be additional work done at Flint's water plant.

Flint's water plant and the Flint River is currently the backup for Flint and Genesee County, however, the plant only operates four times per year.

Councilman Bryant Nolden was the lone dissenting vote.

"It was a protest vote," Nolden said. "I knew they had enough votes. I just feel like the Flint River is our best option."

Karengnondi is the regional water authority that includes Genesee, Lapeer and Sanilac counties and the cities of Flint and Lapeer.

Flint is the second municipality, behind Genesee County, to officially decide to purchase raw water through the KWA. Lapeer city officials said they intend to purchase water, but an agreement has been finalized.

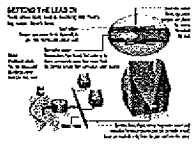
Dominic Adams is a reporter for MLive-Flint Journal. Contact him at ***dadams5@mlive.com*** *or 810-241-8803. Follow him on* ***Twitter [http://www.twitter.com/dominicadams]*** *,* ***Facebook [http://www.facebook.com/dominic.adams.1865]*** *or* ***Google+ [https://plus.google.com/103690672506808729911?rel=author]*** *.*

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GENESEE COUNTY DRAIN COMMISSIONER'S OFFICE
JEFFREY WRIGHT
COMMISSIONER
G-4608 BEECHER ROAD, FLINT, MI 48532
PHONE (810) 732-1590 FAX (810) 732-1474

FOR IMMEDIATE RELEASE

March 26, 2013

CONTACT: Jeff Wright

810-287-1925

What: Jeff Wright Statement on Flint City Council Approving Resolution to Join KWA.

When: March 26, 2013

Additional Info: Jeff Wright, CEO of the KWA, today praised the Flint City Council for voting to approve a resolution to officially have the City of Flint join the KWA and its' water line.

"I have said from the beginning that this decision must be made by Flint's City Council and Mayor," said Wright. "I appreciate the council voting the way they did, but even more than that, I am glad the residents of Flint were able to have their voices heard via their elected officials." The next step in the process will come with the KWA Board executing the contract for the City.

"The most important aspect from the vote is the fact that we as an Authority can move forward knowing Flint's intentions," said Wright.

Despite Emergency Manager Ed Kurtz publicly supporting the project, Wright had made a vote by council a condition of Flint joining the KWA so the residents would have their say.

"There is a basic tenet that government is best when it has local control. We saw that with the council vote. Nobody, whether they live in Flint, Grand Blanc, Davison, Fenton, or anywhere in Genesee County, should have these types of decisions made by people who live outside of their community," said Wright.

At the next Water and Waste Advisory Board meeting a vote will be taken to award a contract for construction of the intake portion of the water line. All bids were submitted to the board at their last meeting for review.

89 (Rev. 02-11)

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

RICK SNYDER
GOVERNOR

ANDY DILLON
STATE TREASURER

Mr. Edward Kurtz
Emergency Manager
City of Flint
1101 South Saginaw Street
Flint, MI 48502

April 11, 2013

Dear Mr. Kurtz:

Thank you for your March 29, 2013 letter, which is attached for reference. As the Emergency Manager for the City of Flint ("Flint" or "City"), you have asked for my concurrence, pursuant to Public Act 436 of 2012, the Local Financial Stability and Choice Act, to authorize a contract in excess of $50,000.00 not subject to competitive bidding. This request was related to the City entering into an agreement with the Karegnondi Water Authority (KWA) for provision of raw water for the City.

In considering your request, I took note of the following facts in support of Flint joining KWA. First, there is widespread support in the City for this move, including the support of the Mayor, the City Council, and the Emergency Manager. Second, this move will provide a unique opportunity for the City and County to partner on an important project, which will hopefully lead to future regional collaboration. Third, the Department of Environmental Quality is supportive of the City participating in the KWA project. Finally, your representations that this deal will lead to substantial savings for the City over the coming decades, savings that are desperately needed to help with the turnaround of the City of Flint.

It is my understanding that the Detroit Water and Sewer Department is making a final best offer to Genesee County and the City of Flint next Monday, April 15, 2013. As such, this approval will be effective at 5 pm on April 16, 2013 after receiving written notice from the City that either no such offer was presented to the county and the City or that an offer was received and was rejected in good faith based upon specified objections.

For the reasons described above and subject to the conditions set forth herein, pursuant to Section 12 (3) of PA 436 of 2012, I am authorizing you to proceed with adopting the resolution and entering into a contract with KWA.

Sincerely,

Andy Dillon
State Treasurer

Flint

Flint council supports buying water from Lake Huron through KWA

[http://connect.mlive.com/staff/dadams1/index.html] By Dominic Adams | dadams5@mlive.com [http://connect.mlive.com/staff/dadams1/posts.html]
Follow on Twitter [http://www.twitter.com/dominicadams]
on March 25, 2013 at 7:17 PM, updated March 26, 2013 at 7:43 AM

FLINT, MI -- Flint residents may soon get their water from Lake Huron.

The Flint City Council voted 7-1 to get 16 million gallons per day from the Karegnondi Water Authority.

"This is about compromise," said Councilman Sheldon Neeley.

Neeley got support from Councilman Joshua Freeman, after the two were previously at odds about the amount the city should withdraw from Lake Huron.

Councilman Bryant Nolden was the lone "no" vote.

"It was a protest vote," Nolden said. "I just feel like the Flint River is our best option."

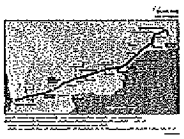
Genesee County Drain Commissioner said construction of the pipeline could start in May.

The city currently pays to get its water from Detroit.

State treasury officials still must approve the city council's move because Flint has an emergency financial manager. All expenditures over $50,000 must be approved.

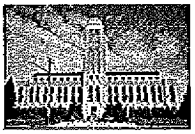
*Dominic Adams is a reporter for MLive-Flint Journal. Contact him at **dadams5@mlive.com** or 810-241-8803. Follow him on **Twitter [http://www.twitter.com/dominicadams]** , **Facebook [http://www.facebook.com/dominic.adams.1865]** or **Google+ [https://plus.google.com/103690672506808729911?rel=author]** .*

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http://www.mlive.com/news/flint/index.ssf/2013/07/city_readying_water_plant_to_t.html

Best,
Harvey

From: Hollins, Harvey (GOV)
Sent: Wednesday, October 07, 2015 5:14 PM
To: Wyant, Dan (DEQ)
Cc: Muchmore, Dennis (GOV);Agen, Jarrod (GOV)
Attachments: KWA Contract (amended) 130165.2.pdf; ATT00001.txt

Resolution: 130165.2

Presented: 3-11-13

Adopted: 3-25-13

AMENDED RESOLUTION TO PURCHASE CAPACITY FROM KAREGNONDI WATER AUTHORITY

BY THE MAYOR:

The Karegnondi Water Authority (KWA) is a governmental consortium of cities and counties in southeastern Michigan that was created to build a water pipeline that will provide water from Lake Huron to interested communities in Sanilac, Lapeer, and Genesee counties. The incorporating bodies that created the KWA are Sanilac County, Lapeer County, Genesee County, the City of Flint, and the City of Lapeer.

The City of Flint is currently in a year to year contract with the City of Detroit for the purchase of water. A study was conducted that projected that staying with Detroit will cost the region $2.1 billion over the next 25 years. In contrast, if the region builds its own pipeline, the projected costs are $1.9 billion over the same period. After the initial 25 year period, the projected costs would be less then 25% of the projected water costs from Detroit.

In order to build the pipeline, the KWA needs commitment from its members regarding the capacity that each member will purchase in the pipeline. The KWA is allowed to withdraw 85 million gallons of water per day. Capacity is available to members in increments of 1 million gallons per day known as units. For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one time fee of $32,300.00. Additionally, the buyer shall pay to the KWA not less then $32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount not to exceed $355,300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed $355,300.00 the buyer has a right to cancel the contract.

The purchase of capacity along with the payment of other costs necessary to operate the pipeline gives the member a right to water for sale to its customers. The buyer has a right to resell capacity and water rights. Each party entering into a capacity contract shall also be entitled to appoint additional board members equal to the party's percentage share of the total capacity under contract.

The City of Flint has decided that it is in its long term best interests to enter into a contract with the KWA to purchase SIXTEEN (16) units of capacity, plus TWO (2) units from the Flint River.

IT IS RESOLVED that City officials are authorized to enter into a contract with KWA to purchase SIXTEEN (16) units of capacity, plus TWO (2) units from the Flint River.

IT IS FURTHER RESOLVED that the City Administrator is authorized to provide KWA information needed to administer the contract and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract.

APPROVED AS TO FORM:

Peter M. Bade
Chief Legal Officer

APPROVED AS TO FINANCE:

Gerald Ambrose
Finance Director

APPROVED BY MAYOR:

Dayne Walling
Mayor

APPROVED BY CITY COUNCIL
ON: March 25, 2013

Inez Brown
Clerk, City of Flint

APPROVED BY
CITY COUNCIL
MAR 25 2013

S:\JP\Ordinances and Resos\KWA.03.08.13.doc

Best,
Harvey

From: Sygo, Jim (DEQ)
Sent: Wednesday, October 07, 2015 6:00 PM
To: Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Wyant, Dan (DEQ)
Subject: Fwd: TAC Meeting Highlights

Summary of advisory committee meeting

Sent from my iPhone

Begin forwarded message:

> **From:** "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>
> **Date:** October 7, 2015 at 4:56:44 PM EDT
> **To:** "Sygo, Jim (DEQ)" <SygoJ@michigan.gov>
> **Subject: TAC Meeting Highlights**
>
> Below is a summary of the Flint TAC meeting to obtain the committee's endorsement to switch back to Detroit water.
> 1. The TAC endorses the switch back to the DWSD
> 2. Marc Edwards of VA Tech supports the switchover to DWSD with conclusion that Flint River water with corrosion control will still be 4 times more corrosive
> than water from DWSD after 5 weeks of treatment.
> 3. Genesee County states two weeks to prepare pipeline for re-use (flush, disinfect, sample, etc)
> 4. Supplemental corrosion control still needed with DWSD water and ACT 399 submittal can be made in approx one week.
> 5. No pros were brought to the table for staying on the Flint River.
>
> Sent from my iPhone

From: Duncan, Nancy (DTMB)
Sent: Wednesday, October 07, 2015 6:17 PM
To: Wyant, Dan (DEQ);Khouri, Nick (TREASURY);Saxton, Thomas (Treasury);Lyon, Nick (DHHS);Becker, Timothy (DHHS);Pallone, Maggie (DEQ);Zimmer, Mike (LARA);Pohl, Allan (LARA);Hanley, Farah (DHHS)
Cc: Roberts, John (DTMB);McNeely, Jacques (DTMB);Harrison, Jennifer (DTMB);Harkins, Chris (DTMB);Shoemaker, Lisa (DTMB);Starr, Scott (DTMB);Fosdick, David (DTMB);Kimmith, Dean (DTMB)
Subject: Flint Water Summary for Governor
Attachments: City of Flint Water Funding Solution.pdf

Importance: High

Attached is a summary of the funding commitments to address the Flint Water situation. The total state commitment is $10.4m; $7.9m of that amount is GF/GP. [The DHHS number needs to be verified tomorrow morning, but the final number should be close to this estimate.]

The funding will address 4 priority areas:

1. Provision of filters for residential service;

2. 50% of the estimated cost to reconnect temporarily to the Detroit Water System;

3. Funding for testing water samples; and

4. Other state assistance (e.g., home/school/health facility inspections and follow-up for children with elevated blood levels).

We are preparing a formal supplemental request to transmit to the Legislature tomorrow. John intends to talk with Rep. Pscholka and Sen. Hildenbrand about including this funding in HB 4102, the pending supplemental bill now awaiting House concurrence. Assuming that they agree, we would ask for final action next week.

Please let me know if you have any questions or concerns about our planned approach.

Nancy

City of Flint Water - Funding Solution
State of Michigan Commitment

Agency	GF/GP	Gross	Comments
Filters:			
Health & Human Services	$1,016,000	$1,016,000	AY15 work project
Health & Human Services	$0	$1,000,000	DEQ State Restricted Settlement Funds provided to HHS Emergency Services local office (FY16 appropriation).
Subtotal Filters:	**$1,016,000**	**$2,016,000**	
Reconnect to DSW:			**Reconnection costs ~$1.3m/month x 9 mos. to be shared by state & Flint**
Environmental Quality	$5,000,000	$6,000,000	DEQ State Restricted Settlement Fund of $1m; balance GF/GP
Subtotal Reconnect:	**$5,000,000**	**$6,000,000**	
Testing Costs:			
Environmental Quality	$1,000,000	$1,000,000	Additional tests at state lab; cost per sample: $26
Subtotal Testing:	**$1,000,000**	**$1,000,000**	
Additional Agency Support:			
LARA	$0	$200,000	Support for plumbing inspectors to do schools (public and parochial) and health facilities (hospitals, Long Term Care, etc.).
MSHDA	$0	$249,900	
Health & Human Services	$600,000	$600,000	Follow-up on children with elevated blood levels
Environmental Quality	$300,000	$300,000	Home and school inspections.
Subtotal Additional Support:	**$900,000**	**$1,349,900**	
ALL TOTAL	**$7,916,000**	**$10,365,900**	

From:	Wyant, Dan (DEQ)
Sent:	Wednesday, October 07, 2015 7:09 PM
To:	Scott, Allison (GOV);Muchmore, Dennis (GOV);Agen, Jarrod (GOV);Dickinson, Sarah (GOV);Emmitt, Beth (GOV)
Subject:	Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED
Attachments:	City of Flint Water Funding Solution.pdf; FLINT SCHOOL TESTING RESULTS.DOCX; Drinking Water Regulations for Monitoring of Lead in Schools and Child C....doc; Response to Corrosion Control Questions.docx; Fwd: TAC Meeting Highlights; CC Meeting Minutes 3-25-2013 (1).doc; Flint.pdf; KWA Contract (amended) 130165.2.pdf

Governor Snyder,

I wanted to provide you with the attached documents to address a number of the questions that you are asking today. A full briefing for the press conference, including press release, talking points, run of show, and frequently asked questions, will be provided by your team. Included in this e-mail are the following attachments:

1. Flint Drinking Water FY 2016 supplemental budget request summary
2. Summary of the Flint schools water testing results and our response to the results
3. Drinking water regulations for monitoring lead in schools and child care centers
4. Response to the questions on corrosion control
5. Summary of today's Safe Drinking Water Technical Advisory Committee meeting
6. Flint City Council Minutes from March 25, 2013; the Resolution to Purchase Capacity from Karegnondi Water Authority; and the Amended Contract

Other Updates

Mayor Duggan and Sue McCormick of DWSD were contacted, briefed, and are supporting tomorrow's announcement. Both have indicated they would provide positive comments supporting the decision.

Dan Wyant

City of Flint Water - Funding Solution
State of Michigan Commitment

Agency	GF/GP	Gross	Comments
Filters:			
Health & Human Services	$1,016,000	$1,016,000	AY15 work project
Health & Human Services	$0	$1,000,000	DEQ State Restricted Settlement Funds provided to HHS Emergency Services local office (FY16 appropriation).
Subtotal Filters:	**$1,016,000**	**$2,016,000**	
Reconnect to DSW:			**Reconnection costs ~$1.3m/month x 9 mos. to be shared by state & Flint**
Environmental Quality	$5,000,000	$6,000,000	DEQ State Restricted Settlement Fund of $1m; balance GF/GP
Subtotal Reconnect:	**$5,000,000**	**$6,000,000**	
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Subtotal Additional Support:	**$900,000**	**$1,349,900**	
ALL TOTAL	**$7,916,000**	**$10,365,900**	

FLINT SCHOOL TESTING RESULTS:

WHAT DID WE FIND?

1) The results of the initial screening conducted over the course of the last week are consistent with the last round of community lead and copper testing.

2) There were a total of 37 samples taken from 13 schools. Of those 37 samples, 4 exceeded the 15 ppb action level. There were 3 schools that had samples exceeding the action level: Eisenhower Elementary (which had two samples exceeding 15 ppb). Brownell STEM Academy and Freeman Elementary each had one sample exceeding 15 PPB. The sample from Freeman Academy was significantly higher than the other samples at 101 PPB.

3) Looking at the data from a health based perspective, the data clearly demonstrates that more detailed sampling needs to occur so that the various sources of lead contamination contained within each respective school's plumbing can be identified and addressed.

WHAT DOES THE DATA MEAN?

1) The data underscores the need for a complete and thorough evaluation of the plumbing system within each school.

2) We have developed a protocol for evaluating the plumbing systems and we will be working with schools to implement these protocols and to assist them in determining a corrective action plan to address this issue.

3) The State is identifying staff within DEQ, DHHS, LARA and Local County Health Departments to assist schools in conducting evaluations of their plumbing systems.

WHAT IS YOUR PROTOCOL?

1) DEQ's protocols are based on similar work done in Michigan and in other States.

2) Multiple samples from each tap used for cooking or drinking water will be collected at prescribed intervals to identify levels of lead and its likely source.

3) Once an evaluation is complete, we will be able to assist each School in developing a comprehensive plan to address issues on a site specific basis.

HOW DO SCHOOLS RESPOND?

1) Schools should continue protective measures that are currently in place until a complete study can be conducted at each school. This includes the continued use of bottled water for consumption purposes.

2) We will be reaching out to schools to schedule a complete evaluation, assessment and sampling, of their plumbing systems.

Drinking Water Regulations for Monitoring of Lead in Schools and Child Care Centers

There is no federal or Michigan law requiring sampling of drinking water in schools that receive water from other public water systems, although schools that have their own water supply are subject to regulation and sampling as non-community public water systems. Schools served by a public water system may be included as a sampling site (i.e., tap) for a public water system's lead and copper monitoring program if there are insufficient single-family homes that qualify. There are no federal requirements for more extensive testing.

The 1986 Amendments to the Safe Drinking Water Act (SDWA) required EPA to develop regulations to control for lead in drinking water. The Lead and Copper Rule (LCR), issued in 1991, is focused on controlling corrosion within the distribution system that delivers water to customers. The 1986 SDWA Amendments also required that only lead-free materials be used in new plumbing and in plumbing repairs.

In 1988, the SDWA was further amended by the Lead Contamination Control Act (LCCA), to reduce the exposure of lead to children in schools and child care facilities. The LCCA prohibited the sale of any drinking water cooler that is not lead-free and required that:
• the EPA identify each brand and model of drinking water cooler, indicating which are lead free and which have a lead-lined tank and distribute the list to states (SDWA Sec. 1463),
• the Consumer Product Safety Commission order that manufacturers and importers of all drinking water coolers identified as having a lead-lined tank repair, replace, or recall and provide a refund for such coolers (SDWA Sec. 1462),
• the EPA publish a guidance document and testing protocol to assist states in determining the source and degree of lead contamination in school drinking water (SDWA Sec. 1464), and
• states establish programs to assist schools and child care facilities to test for and remedy lead contamination problems, with public availability of results of such testing (SDWA Sec. 1464(d)).

As a result of a 1996 court decision, States are not required to establish testing programs. In its decision, the Fifth Circuit held that provisions in section 1464(d) were unconstitutional under the Tenth Amendment to the U.S. Constitution because they directly compelled the state to enact and enforce a federal regulatory program and provided no options for the State to decline the program. The decision did not, however, restrict states from developing and carrying out their own programs to assist schools.

In 1989 and subsequent years, EPA released guidance and information to inform states and school systems how to test for and reduce the risk of lead exposure in school drinking water. EPA's guidance provides a protocol for testing water in schools and recommends that schools take action at fixtures where the lead concentration exceeds 20 ppb. This concentration differs from the 15 ppb action level that public water systems are required to follow. ***The 20 ppb action level is based on a smaller sample collection volume of 250 milliliters (ml) and is designed to pinpoint specific fountains and outlets that require attention.***

In 1990, Michigan did provide schools and licensed child care centers with information to assist in testing and remedying potential lead contamination of their drinking water as required by the Lead Contamination Control Act of 1988. This information included a sampling protocol and guidance on flushing their system to minimize lead exposure.

In 2004, EPA surveyed states to determine what additional programs may exist to control exposure to lead in drinking water at schools and child care centers. Forty-nine states, Puerto Rico, the District of Columbia and the Navajo Nation responded. Only 16 respondents indicated they have or will conduct special sampling or studies to target lead exposure at schools and child care centers. Michigan has not included any additional sampling programs or studies. However, some local agencies have conducted voluntary programs. For example, the W.K. Kellogg Foundation funded a program implemented by the Calhoun County Health Department that sampled schools in Battle Creek. In Michigan's response to this EPA survey, we included a recommendation for EPA to allow schools to be considered as a primary LCR monitoring site so that more information about lead levels in schools would become available. However, no changes in sampling criteria have occurred to date.

In 2005, a Memorandum of Understanding was signed between the EPA, the Department of Education, the Centers for Disease Control and Prevention (CDC), the American Water Works Association, the Association of Metropolitan Water Agencies, the Association of State Drinking Water Administrators, the National Association of Water Companies and the National Rural Water Association to facilitate actions that reduce children's exposure to lead from drinking water at schools and child care facilities.

Across the country and in Michigan, most schools and child care facilities receive water from other community water systems. However, those schools that have their own source of drinking water are considered non-transient non-community water systems and are subject to the LCR. In Michigan, there are 755 such schools and child care centers that must monitor for lead to demonstrate compliance.

Response to Corrosion Control Questions

- Lime Softening can affect the pH in water
- The pH of the water is one physical characteristic that can affect the leaching of lead from pipes into the water
- As per the requirements in the Lead/Copper rule the Flint Water system was evaluated for two consecutive monitoring periods and the results of the monitoring demonstrated that further action was necessary.
- The DEQ promptly notified the Flint water system of the need for additional measures and the city of Flint promptly began putting together an action plan to address this need.

From: Sygo, Jim (DEQ)
Sent: Wednesday, October 07, 2015 6:00 PM
To: Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Wyant, Dan (DEQ)
Subject: Fwd: TAC Meeting Highlights

Summary of advisory committee meeting

Sent from my iPhone

Begin forwarded message:

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> **Date:** October 7, 2015 at 4:56:44 PM EDT
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>
> Sent from my iPhone

City of Flint, Michigan

Third Floor, City Hall
1101 S. Saginaw Street
Flint, Michigan 48502
www.cityofflint.com

Meeting Minutes - Draft

Monday, March 25, 2013

5:33 PM

Agenda amended to include Board of Hospital Managers appointments

Council Chambers

CITY COUNCIL

Scott Kincaid, President, Ward 9
Bryant W. Nolden, Vice President, Ward 3

Claudia Croom, Ward 1 ***Jacqueline Poplar, Ward 2***
Joshua M. Freeman, Ward 4 ***Bernard Lawler, Ward 5***
Sheldon A. Neeley, Ward 6 ***Dale K. Weighill, Ward 7***
Michael J. Sarginson, Ward 8

Inez M. Brown, City Clerk

CALL TO ORDER

President Scott Kincaid called the meeting to order at 5:33 p.m.

ROLL CALL

Councilperson Michael Sarginson arrived at 5:37 p.m.

Present: Councilperson: Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, Kincaid, Councilperson Weighill and Councilperson Croom

PLEDGE OF ALLEGIANCE

Councilperson Sheldon Neeley led the Pledge of Allegiance.

SPECIAL ORDER

130217 Special Order/Information & Discussion/Karegnondi Water Authority (KWA)

A Special Order as requested by Council President Scott Kincaid to continue discussion and review of information on the Karegnondi Water Authority (KWA).

Presented

PETITIONS AND UNOFFICIAL COMMUNICATIONS

130193 Change to Digital/All Limited Basic Service Channels/Comcast Cablevision

Communication dated March 6, 2013, from Gerald W. Smith, Government Affairs Manager, Comcast, to Flint City Clerk, re: On or shortly after April 9, 2013, Comcast will convert all Limited Basic service channels -- including Public, Government and Educational Access (PEG) channels to digital format, and will provide customers with digital equipment.

This matter was Placed on File. The motion carried.

130199 Certified Letter/Loyst Fletcher, Jr. & Associates

Communication received from Loyst Fletcher, Jr. to Chief Legal Officer, re: He questions the tax-exempt status of Word of Life Christian Church, which received a tax bill from the city.

This matter was Placed on File. The motion carried.

130200 Local Approval Notice/Michigan Liquor Control Commission (MLCC)/Time Square/Ward 3

Local Approval Notice dated March 14, 2013, from MLCC to Flint City Clerk, re: The MLCC has received a request to transfer all stock in 2012 Class C license with Sunday Sales Permit (PM) and Dance Permit, located at 4522 N. Saginaw,

Flint, Michigan, 48505, Genesee County, held by the estate of Myra Seals, Inc., 1028 Cora Dr., Flint, MI 48532, to Carisa Mays Bishop, Personal Representative. [NOTE: Approval order enclosed.]

This matter was Placed on File. The motion carried.

130202 Local Approval Notice/Michigan Liquor Control Commission (MLCC)/D & R Market, Inc./Ward 6

Local Approval Notice dated March 6, 2013, and received March 15, 2013, from MLCC to Flint City Clerk, re: The MLCC has received an application from 2 AAR, LLC, requesting to Transfer Ownership of a Specially Designated Distributor (SDD) and Specially Designated Merchant (SDM) licensed business with Sunday Sales permit (PM) and Direct Connection-I to D & R Market, Inc., located at 1402-1404 N. Chevrolet, Flint, Michigan, 48504, Genesee County, from 2 AAR, LLC, 3079 Shattuck Arms Blvd., Apt. 5, Saginaw, MI 48603. [NOTE: The application was cancelled pursuant to a request from an attorney.]

This matter was Placed on File. The motion carried.

130204 Changes/Cable Channel Lineup/Comcast Cablevision

Communication dated March 18, 2013, from Gerald W. Smith, Government Affairs Manager, Comcast, to Flint City Clerk, re: effective on or about May 22, 2013, Fox Business Network/Fox Business Network HD (ch. 06/243) will from the Digital Preferred Service to the Digital Starter Service.

This matter was Placed on File. The motion carried.

130205 Media Alert/Flint Public Art Project/Announcement of Design Winner

Media Alert received via e-mail on March 19, 2013, from the American Institute of Architects (AIA), re: The Flint Public Art Project and the Flint Chapter of the AIA will announce the winner of the $25,000.00 grand prize in the inaugural Flat Lot competition to design and build a temporary summer pavilion on Flint's central downtown parking lot at 9:30 a.m. Thursday, March 21, 2013, at the John Gazall & Associates, Mott Building, 503 S. Saginaw Street, Flint.

This matter was Placed on File. The motion carried.

130207 Damage Claims

MAYFIELD, LINDA, 2518 Walter Street, Flint, MI (WARD 2)
LANE, WILLIE C., 3130 Concord Street, Flint, MI (WARD 6)

This matter was Placed on File. The motion carried.

COMMUNICATIONS FROM CITY OFFICIALS

130194 Press Release/City of Flint/Hiring of New Police Officers/Recruitment of Others

Press Release dated March 11, 2013, from Jason Lorenz, City of Flint Public

Information Officer, re: The City of Flint has seven new police officers on the job from the public safety millage passed last November by voters. The city's next step is to hold a recruitment drive by working with a local college, which will set up a Police Academy when the city has gathered sufficient interest from its efforts.

This matter was Placed on File. The motion carried.

130195 Press Release/City of Flint/Sunday Sales of Alcohol Before Noon Not Permitted on St. Patrick's Day

Press Release dated March 12, 2013, from Jason Lorenz, City of Flint Public Information Officer, re: The City of Flint will not be able to permit Sunday alcohol sales before noon this Sunday, March 17, St. Patrick's Day. While the city adopted a resolution to allow a one-time exception to the Sunday morning alcohol ban, the Michigan Liquor Control Commission has taken the position that the city cannot create a one-day exemption.

This matter was Placed on File. The motion carried.

130196 Flint City Council/Public Notice/Special City Council Meeting/March 18, 2013

Public Notice posted March 14, 2013, re: The Flint City Council will hold a Special City Council Meeting, followed by a Finance Committee Meeting, at 5:30 p.m. Monday, March 18, 2013, in the City Council Chambers, 3rd Floor, City Hall, to consider a contract with the Karegnondi Water Authority (KWA).

This matter was Placed on File. The motion carried.

130201 Emergency Financial Manager (EFM) Order #10/Grant Applications

Order #10 issued by Emergency Financial Manager on March 15, 2013, "Grant Applications," re: "all city officials, department heads, division heads and employees shall adhere to ...requirements regarding the approval of any and all grant applications on behalf of the City of Flint or grant applications submitted by others which in any way involves the financial, programmatic or personnel support by the City of Flint." The five requirements, including the stipulation that only the Emergency Financial Manager or City Administrator are authorized to accept grants on behalf of the city, are included in the order.

This matter was Placed on File. The motion carried.

130203 Press Release/City of Flint/Flint Lifelines/Meeting Announcement

Press Release dated March 16, 2013, from Jason Lorenz, City of Flint Public Information Officer, re: Flint Lifelines, formerly CeaseFire Flint, will hold community meetings on the fourth Thursday of each month, beginning at 1 p.m. Thursday, March 28, 2013 at Flint Northwestern High School. The meetings are open to the public.

This matter was Placed on File. The motion carried.

130206 Flint City Council/Public Notice/Finance Committee Meeting/March 20, 2013

Public Notice posted March 19, 2013, re: The Flint City Council will hold a Finance Committee Meeting at 5:30 p.m. Wednesday, March 20, 2013, in the City Council Committee Room, 3rd Floor, City Hall.

This matter was Placed on File. The motion carried.

130208 Flint City Council/Public Notice/Special Affairs Committee Meeting/March 25, 2013

Public Notice posted March 22, 2013, re: The Flint City Council will hold a Special Affairs Committee Meeting at 5 p.m. Monday, March 25, 2013, in the City Council Committee Room, 3rd Floor, City Hall. A regular City Council meeting will immediately follow in the Council Chambers.

This matter was Placed on File. The motion carried.

130209 Traffic Engineering/Note for Bulletin/Street-Sidewalk-Lane Closures

Notes for Bulletin (3) dated February/March 2013, for street, sidewalk, or lane closures, re: (1) Harrison Street, Saginaw Street and Second Avenue (cable failure-March 11-March 20); (2) First Street, Harrison Street, Wallenberg, Kearsley, Crapo, Horrigan, and Harrison (St. Patrick's Day Pot O' Gold 4-Mil Run/Walk-March 17); and (3) Chevrolet Avenue (University Corner Grand Opening-March 22).

This matter was Placed on File. The motion carried.

Passed The Consent Agenda

A motion was made. The motion carried.

PUBLIC SPEAKERS

ROLL CALL

Councilperson Dale Weighill left at approximately 7 p.m.

Present: Councilperson: Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, Kincaid and Councilperson Croom

Absent: Councilperson: Councilperson Weighill

APPOINTMENTS

130169.1 Amendment/Reappointment/Zoning Board of Appeals/Christine Monk (Ward 6)

Amended resolution resolving that the Flint City Council recommends the reappointment of Christine Monk (821 Frank Street, Flint MI 48504 - Ward 6), to the Zoning Board of Appeals for a three-year term, commencing September

1, 2011, and expiring September 1, 2014. [By way of background, Ms. Monk's term on the Zoning Board of Appeals expired in September 2011, but she has continued since that time to serve.] [Resolution amended to fix typographical error in first paragraph of resolution from "Board of Review" to "Zoning Board of Appeals."]

Sponsors: Sheldon A. Neeley

A motion was made by Councilperson Neeley, seconded by Councilperson Freeman, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130211 Appointment/Zoning Board of Appeals/Chris Zuwala (Ward 4)

Resolution resolving that the Flint City Council recommends the appointment of Chris Zuwala (3510 Whittier Avenue, Flint MI 48506 - Ward 4) to the Zoning Board of Appeals for a three-year term, expiring September 1, 2013. [NOTE: By way of background, Gloria Kelly's term as the 4th Ward representative expired in September 2007, but she continued to serve until resigning in January 2013.]

Sponsors: Joshua M. Freeman

A motion was made by Councilperson Freeman, seconded by Councilperson Poplar, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130212 Reappointment/Zoning Board of Appeals/Birdie V. Brooks (Ward 5)

Resolution resolving that the Flint City Council recommends the reappointment of Birdie V. Brooks (1307 Columbia Lane, Flint MI 48503 - Ward 5), to the Zoning Board of Appeals for the remainder of a three-year term, expiring September 1, 2014. [By way of background, Ms. Brook's term on the Zoning Board of Appeals expired in September 2011, but she has continued since that time to serve.]

Sponsors: Bernard Lawler

A motion was made by Councilperson Lawler, seconded by Councilperson Neeley, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130213

Resolution resolving that the Flint City Council recommends the reappointment of Marcia Braden (984 Barney Avenue, Flint MI 48503 - Ward 8), to the Zoning Board of Appeals for the remainder of a three-year term, expiring September 1, 2014. [By way of background, Ms. Braden's term on the Zoning Board of Appeals expired in September 2011, but she has continued since that time to serve.]

Sponsors: Michael J. Sarginson

A motion was made by Councilperson Sarginson, seconded by Councilperson Freeman, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130214 Reappointment/Zoning Board of Appeals/David C. Veasley (Ward 9)

Resolution resolving that the Flint City Council recommends the reappointment of David C. Veasley (2618 Pinetree Drive, Flint MI 48507 - Ward 9), to the Zoning Board of Appeals for the remainder of a three-year term, expiring September 1, 2015. [By way of background, Mr. Veasley's term on the Zoning Board of Appeals expired in September 2009, but he has continued since that time to serve.]

Sponsors: Scott Kincaid

A motion was made by Councilperson Freeman, seconded by Vice President Nolden, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130215 Appointment/Genesee County Land Bank Citizens' Advisory Council/Anthony Tucker (Ward 4)

Resolution resolving that the Flint City Council recommends the appointment of Anthony Tucker (2960 Henry Street, Flint MI 48506 - Ward 4) to the Genesee County Land Bank Citizens' Advisory Council for the remainder of a three-year term, expiring in January 2016. [NOTE: By way of background, Dan Anderson's term as the 4th Ward representative expired in January 2013.]

Sponsors: Joshua M. Freeman

A motion was made by Councilperson Freeman, seconded by Councilperson Poplar, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130218 Reappointment/Hurley Board of Hospital Managers/Philip W. Shaltz

Resolution resolving that the Flint City Council approves the reappointment of Philip W. Shaltz (14144 Moffet Drive, Fenton, MI 48430) to an additional five-year term on the (Hurley) Board of Hospital Managers, with such term to commence May 1, 2013, and expire April 30, 2018.

A motion was made by Councilperson Freeman, seconded by Vice President Nolden, that this matter be Approved. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130219 Appointment/Hurley Board of Hospital Managers/Delrico Loyd

Resolution resolving that the Flint City Council approves the appointment of Delrico Loyd (2641 Westwood Parkway, Flint, MI 48507) to a five-year term on the (Hurley) Board of Hospital Managers, with such term to commence May 1, 2013, and expire April 30, 2018. [By way of background, Carl E. Mason was appointed in June 2008; his term expires April 30, 2013.]

Approved

Substituted

A motion was made by Councilperson Neeley, seconded by Councilperson Lawler, that this matter be POSTPONED for March 27, 2013. The motion failed by the following vote:

Aye: 3 - Councilperson Lawler, Councilperson Neeley and Councilperson Sarginson

No: 5 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

Substituted

A motion was made by Vice President Nolden, seconded by Councilperson Freeman, that this matter be Approved. The motion carried by the following vote:

Aye: 5 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, President Kincaid and Councilperson Croom

No: 3 - Councilperson Lawler, Councilperson Neeley and Councilperson Sarginson

Absent: 1 - Councilperson Weighill

130220 Appointment/Hurley Board of Hospital Managers/Donna Poplar

Resolution resolving that the Flint City Council approves the appointment of Donna Poplar (5277 Kimberly Woods Circle, Flint, MI 48504) to a five-year term

on the (Hurley) Board of Hospital Managers, with such term to commence May 1, 2013, and expire April 30, 2018. [By way of background, Frances Gilcreast was appointed in August 2008; her term expires April 30, 2013.]

Approved

Substituted

A motion was made by Councilperson Lawler, seconded by Councilperson Neeley, that this matter be POSTPONED for March 26, 2013. The motion carried by the following vote:

Aye: 7 - Councilperson Poplar, Vice President Nolden, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

No: 1 - Councilperson Freeman

Absent: 1 - Councilperson Weighill

RESOLUTIONS

130165.1 Amended Resolution/Contract/City of Flint/Karegnondi Water Authority (KWA)

Amended resolution resolving that city officials are authorized to enter into a contract with Karegnondi Water Authority (KWA) to purchase fifteen (15) units of capacity, AND, resolving that the City Administrator is authorized to provide KWA information needed to administer the contract, and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract. [NOTE: For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one-time fee of $32,300. Additionally, the buyer shall pay to the KWA not less than $32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount NOT-TO-EXCEED $355,300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed $355,300.00, the buyer has a right to cancel the contract. Over the next 25 years, it is expected that continuing with Detroit will cost the region $2.1 billion, compared to $1.9 billion with a pipeline.] [NOTE: Contract not included.] [NOTE: Resolution amended from 18 to 15 units of capacity.]

A motion was made by Councilperson Neeley, seconded by Councilperson Freeman, that this matter be Amended. The motion carried by the following vote:

Aye: 5 - Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley and Councilperson Sarginson

No: 3 - Councilperson Poplar, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130165.2 Amended Resolution/Contract/City of Flint/Karegnondi Water Authority (KWA)

Amended resolution resolving that city officials are authorized to enter into a contract with Karegnondi Water Authority (KWA) to purchase sixteen (16) units

of capacity, AND, resolving that the City Administrator is authorized to provide KWA information needed to administer the contract, and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract. [NOTE: For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one-time fee of $32,300. Additionally, the buyer shall pay to the KWA not less than $32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount NOT-TO-EXCEED $355,300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed $355,300.00, the buyer has a right to cancel the contract. Over the next 25 years, it is expected that continuing with Detroit will cost the region $2.1 billion, compared to $1.9 billion with a pipeline.] [NOTE: Contract not included.] [NOTE: Resolution amended from 15 to 16 units of capacity.]

A motion was made by Councilperson Neeley, seconded by Councilperson Freeman, that this matter be Adopted. The motion carried by the following vote:

Aye: 7 - Councilperson Poplar, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

No: 1 - Vice President Nolden

Absent: 1 - Councilperson Weighill

130216 Approval/The First Amendment & Restated Rules Governing the Downtown Development Authority (DDA) of the City of Flint

Resolution that the City of Flint hereby approves and The First Amendment & Restated Rules Governing the Downtown Development Authority (DDA) of the City of Flint, attached hereto. [NOTE: The City of Flint created the DDA, in accordance with Public Act 197 of 1975, as amended, and approved The Rules Governing the DDA in 1977. Public Act 197 has been amended and revised at various times since then, which required the proposed changes.] [NOTE: The First Amendment & Restated Rules Governing the Downtown Development Authority (DDA) of the City of Flint is attached.]

A motion was made by Councilperson Freeman, seconded by Vice President Nolden, that this matter be Amended. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

130216.1 Amended Resolution/Approval/The First Amendment & Restated Rules Governing the Downtown Development Authority (DDA) of the City of Flint

Amended resolution that the City of Flint hereby approves and The First Amendment & Restated Rules Governing the Downtown Development Authority (DDA) of the City of Flint, attached hereto. [NOTE: The City of Flint created the DDA, in accordance with Public Act 197 of 1975, as amended, and approved The Rules Governing the DDA in 1977. Public Act 197 has been

amended and revised at various times since then, which required the proposed changes.] [NOTE: The First Amendment & Restated Rules Governing the Downtown Development Authority (DDA) of the City of Flint is attached.] [Resolution amended for changes to rules.]

A motion was made by Councilperson Freeman, seconded by Vice President Nolden, that this matter be Adopted. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

RESOLUTIONS - MAY BE REFERRED FROM S.A.

130210 Resolution/City Council/Mayor Dayne Walling/Request for Appointment of Transition Advisory Board

Resolution resolving that Mayor Dayne Walling and the Flint City Council request and recommend to Gov. Rick Snyder that a receivership transition advisory board be appointed for the City of Flint under Public Act 436 no later than July 1, 2013. [NOTE: On December 1, 2011, Gov. Snyder appointed Michael K. Brown as Emergency Manager under Public Act 4 for the City of Flint, due in part to a consistent deficit in the general fund, the decline in pooled cash, budget issues and unfunded liabilities for post-employment benefits. Due to the suspension and subsequent repeal of Public Act 4, Gov. Snyder appointed Edward J. Kurtz as Emergency Financial Manager under Public Act 72 for the City of Flint, effective August 9, 2012. Both the Emergency Manager and the subsequently appointed Emergency Financial Manager were authorized by virtue of their appointment to "act for and in the place and stead of the governing body and the office of chief administrative officer of the City of Flint." On March 28, 2013, Public Act 436 will become effective and provides that an emergency financial manager appointed and serving under state law immediately prior to the effective date shall continue to serve as an emergency manager under Public Act 436. As an alternative to continuation of an emergency manager, and if the financial emergency has been rectified, Public Act 436 authorizes the governor to appoint a receivership transition advisory board, which serves at the pleasure of the governor and monitors the affairs of the local government until the receivership is terminated.]

No vote was taken on this amendment.

Amended

130210.1 Amended Resolution/City Council/Mayor Dayne Walling/Request for Appointment of Transition Advisory Board

Amended resolution resolving that Mayor Dayne Walling and the Flint City Council request and recommend to Gov. Rick Snyder that a receivership transition advisory board be appointed for the City of Flint under Public Act 436 no later than July 1, 2013. [NOTE: On December 1, 2011, Gov. Snyder appointed Michael K. Brown as Emergency Manager under Public Act 4 for the

City of Flint, due in part to a consistent deficit in the general fund, the decline in pooled cash, budget issues and unfunded liabilities for post-employment benefits. Due to the suspension and subsequent repeal of Public Act 4, Gov. Snyder appointed Edward J. Kurtz as Emergency Financial Manager under Public Act 72 for the City of Flint, effective August 9, 2012. Both the Emergency Manager and the subsequently appointed Emergency Financial Manager were authorized by virtue of their appointment to "act for and in the place and stead of the governing body and the office of chief administrative officer of the City of Flint." On March 28, 2013, Public Act 436 will become effective and provides that an emergency financial manager appointed and serving under state law immediately prior to the effective date shall continue to serve as an emergency manager under Public Act 436. As an alternative to continuation of an emergency manager, and if the financial emergency has been rectified, Public Act 436 authorizes the governor to appoint a receivership transition advisory board, which serves at the pleasure of the governor and monitors the affairs of the local government until the receivership is terminated.] [Six-page resolution amended for changes proposed by City Council, City Clerk and Mayor Dayne Walling.]

A motion was made by Councilperson Freeman, seconded by Councilperson Poplar, that this matter be Adopted. The motion carried by the following vote:

Aye: 8 - Councilperson Poplar, Vice President Nolden, Councilperson Freeman, Councilperson Lawler, Councilperson Neeley, Councilperson Sarginson, President Kincaid and Councilperson Croom

Absent: 1 - Councilperson Weighill

MEETING SCHEDULE

ADDITIONAL COUNCIL DISCUSSION

ADJOURNMENT

Having no further business, Council President Scott Kincaid adjourned the meeting at 8:59 p.m.

Respectfully transcribed and submitted,

Janell Johnson. Administrative Secretary to City Council

EM SUBMISSION NO.: 2013EM041

PRESENTED: 3-28-13

ADOPTED: 3-29-13

BY THE EMERGENCY MANAGER:

RESOLUTION TO PURCHASE CAPACITY FROM KAREGNONDI WATER AUTHORITY

The Karegnondi Water Authority (KWA) is a governmental consortium of cities and counties in southeastern Michigan that was created to build a water pipeline that will provide water from Lake Huron to interested communities in Sanilac, Lapeer, and Genesee counties. The incorporating bodies that created the KWA are Sanilac County, Lapeer County, Genesee County, the City of Flint, and the City of Lapeer.

The City of Flint is currently in a year to year contract with the City of Detroit for the purchase of water. A study was conducted that projected that staying with Detroit will cost the region $2.1 billion over the next 25 years. In contrast, if the region builds its own pipeline, the projected costs are $1.9 billion over the same period. After the initial 25 year period, the projected costs would be less then 25% of the projected water costs from Detroit.

In order to build the pipeline, the KWA needs commitment from its members regarding the capacity that each member will purchase in the pipeline. The KWA is allowed to withdraw 85 million gallons of water per day. Capacity is available to members in increments of 1 million gallons per day known as units. For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one time fee of $32,300.00. Additionally, the buyer shall pay to the KWA not less then $32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount not to exceed $355.300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed $355,300.00 the buyer has a right to cancel the contract.

The purchase of capacity along with the payment of other costs necessary to operate the pipeline gives the member a right to water for sale to its customers. The buyer has a right to resell capacity and water rights. Each party entering into a capacity contract shall also be entitled to appoint additional board members equal to the party's percentage share of the total capacity under contract.

It is in the long term best interests of the City of Flint to enter into a contract with the KWA to purchase up to eighteen (18) units of capacity.

IT IS RESOLVED that City officials are authorized to enter into a contract with KWA to purchase up to eighteen (18) units of capacity.

IT IS FURTHER RESOLVED that the City Administrator is authorized to provide KWA information needed to administer the contract and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract.

APPROVED AS TO FORM:

Peter M. Bade, City Attorney

APPROVED AS TO FINANCE:

For **Gerald Ambrose, Finance Director**

EM DISPOSITION:

ENACT 1 **FAIL** _____ **DATED** 3-29-13

Edward L. Kurtz, Emergency Manager

S:\P. Bade\EM2013\Resolutions\KWA.03.28.13.doc

Flint

Flint City Council approves resolution to buy water from Karegnondi, state approval still needed



[http://connect.mlive.com/staff/dadams1/index.html] By Dominic Adams | dadams5@mlive.com [http://connect.mlive.com/staff/dadams1/posts.html]
Follow on Twitter [http://www.twitter.com/dominicadams]
on March 25, 2013 at 10:45 PM, updated March 26, 2013 at 1:28 AM

FLINT, MI – Flint is one step closer to getting its water from Lake Huron as part of the Karegnondi Water Authority.

The vote, **approved 7-1 at the Flint City Council meeting Monday, March 25 [http://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_again_delay.html]** , may have set in motion the end to Flint paying to get its water from Detroit.

Under the proposal, Flint would get 16 million gallons per day of raw water from Lake Huron, pipe it to Flint for treatment and then sell it to customers throughout the city. Another 2 million gallons per day would come from the Flint River and will be treated in Flint.

Mayor Dayne Walling said the Department of Environmental Quality must approve Flint's getting 2 million gallons per day from the Flint River.

Tuesday's meeting followed weeks of discussions and special meetings surrounding the resolution.

"We got there," Councilman Joshua Freeman said. "That's the important thing."

There were more than 50 people at Monday's meeting.

"Going with Karegnondi is the best decision. We have no opinion on the economics of the decision," said Rebecca Fedewa, Flint River Watershed Coalition executive director. "If we start drawing water out of the Flint River, we are at risk of having to start releasing water from our reservoirs."

Genesee County Drain Commissioner Jeff Wright said the decision must still be approved by a county water and waste advisory board. The KWA board will then be reconvened for final approval.

Wright said construction could start in May.

State treasury officials still must approve the city council's move because Flint has an emergency financial manager. All expenditures over $50,000 must be approved.

Genesee County Drain Commissioner Jeff Wright has said that Flint would pay roughly $6.4 million annually for water service if it joined the pipeline – a nearly $4 million savings on what it pays Detroit for water.

Walling previously said the **city would save $19 million over eight years [http://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_delays_deci.html]** by getting water from the KWA.

"It's a historic night in the City of Flint," Walling said. "The savings will be less with the capacity level approved by city council because there will be increased treatment cost for the river water."

He said the DEQ told the city it needed to get 18 million gallons per day or there would have to be additional work done at Flint's water plant.

Flint's water plant and the Flint River is currently the backup for Flint and Genesee County, however, the plant only operates four times per year.

Councilman Bryant Nolden was the lone dissenting vote.

"It was a protest vote," Nolden said. "I knew they had enough votes. I just feel like the Flint River is our best option."

Karengnondi is the regional water authority that includes Genesee, Lapeer and Sanilac counties and the cities of Flint and Lapeer.

Flint is the second municipality, behind Genesee County, to officially decide to purchase raw water through the KWA. Lapeer city officials said they intend to purchase water, but an agreement has been finalized.

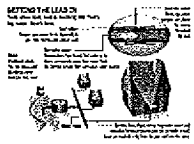
Dominic Adams is a reporter for MLive-Flint Journal. Contact him at ***dadams5@mlive.com*** *or 810-241-8803. Follow him on* ***Twitter [http://www.twitter.com/dominicadams]*** *,* ***Facebook [http://www.facebook.com/dominic.adams.1865]*** *or* ***Google+ [https://plus.google.com/103690672506808729911?rel=author]*** *.*

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JEFFREY WRIGHT
COMMISSIONER
G-4608 BEECHER ROAD, FLINT, MI 48532
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FOR IMMEDIATE RELEASE

March 26, 2013

CONTACT: Jeff Wright

810-287-1925

What: Jeff Wright Statement on Flint City Council Approving Resolution to Join KWA.

When: March 26, 2013

Additional Info: Jeff Wright, CEO of the KWA, today praised the Flint City Council for voting to approve a resolution to officially have the City of Flint join the KWA and its' water line.

"I have said from the beginning that this decision must be made by Flint's City Council and Mayor," said Wright. "I appreciate the council voting the way they did, but even more than that, I am glad the residents of Flint were able to have their voices heard via their elected officials." The next step in the process will come with the KWA Board executing the contract for the City.

"The most important aspect from the vote is the fact that we as an Authority can move forward knowing Flint's intentions," said Wright.

Despite Emergency Manager Ed Kurtz publicly supporting the project, Wright had made a vote by council a condition of Flint joining the KWA so the residents would have their say.

"There is a basic tenet that government is best when it has local control. We saw that with the council vote. Nobody, whether they live in Flint, Grand Blanc, Davison, Fenton, or anywhere in Genesee County, should have these types of decisions made by people who live outside of their community," said Wright.

At the next Water and Waste Advisory Board meeting a vote will be taken to award a contract for construction of the intake portion of the water line. All bids were submitted to the board at their last meeting for review.

89 (Rev. 02-11)

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

RICK SNYDER
GOVERNOR

ANDY DILLON
STATE TREASURER

Mr. Edward Kurtz
Emergency Manager
City of Flint
1101 South Saginaw Street
Flint, MI 48502

April 11, 2013

Dear Mr. Kurtz:

Thank you for your March 29, 2013 letter, which is attached for reference. As the Emergency Manager for the City of Flint ("Flint" or "City"), you have asked for my concurrence, pursuant to Public Act 436 of 2012, the Local Financial Stability and Choice Act, to authorize a contract in excess of $50,000.00 not subject to competitive bidding. This request was related to the City entering into an agreement with the Karegnondi Water Authority (KWA) for provision of raw water for the City.

In considering your request, I took note of the following facts in support of Flint joining KWA. First, there is widespread support in the City for this move, including the support of the Mayor, the City Council, and the Emergency Manager. Second, this move will provide a unique opportunity for the City and County to partner on an important project, which will hopefully lead to future regional collaboration. Third, the Department of Environmental Quality is supportive of the City participating in the KWA project. Finally, your representations that this deal will lead to substantial savings for the City over the coming decades, savings that are desperately needed to help with the turnaround of the City of Flint.

It is my understanding that the Detroit Water and Sewer Department is making a final best offer to Genesee County and the City of Flint next Monday, April 15, 2013. As such, this approval will be effective at 5 pm on April 16, 2013 after receiving written notice from the City that either no such offer was presented to the county and the City or that an offer was received and was rejected in good faith based upon specified objections.

For the reasons described above and subject to the conditions set forth herein, pursuant to Section 12 (3) of PA 436 of 2012, I am authorizing you to proceed with adopting the resolution and entering into a contract with KWA.

Sincerely,

Andy Dillon
State Treasurer

Flint

Flint council supports buying water from Lake Huron through KWA

[http://connect.mlive.com/staff/dadams1/index.html] By Dominic Adams | dadams5@mlive.com [http://connect.mlive.com/staff/dadams1/posts.html]
Follow on Twitter [http://www.twitter.com/dominicadams]
on March 25, 2013 at 7:17 PM, updated March 26, 2013 at 7:43 AM

FLINT, MI -- Flint residents may soon get their water from Lake Huron.

The Flint City Council voted 7-1 to get 16 million gallons per day from the Karegnondi Water Authority.

"This is about compromise," said Councilman Sheldon Neeley.

Neeley got support from Councilman Joshua Freeman, after the two were previously at odds about the amount the city should withdraw from Lake Huron.

Councilman Bryant Nolden was the lone "no" vote.

"It was a protest vote," Nolden said. "I just feel like the Flint River is our best option."

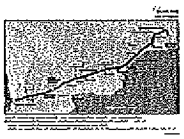
Genesee County Drain Commissioner said construction of the pipeline could start in May.

The city currently pays to get its water from Detroit.

State treasury officials still must approve the city council's move because Flint has an emergency financial manager. All expenditures over $50,000 must be approved.

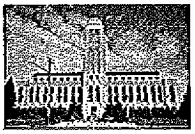
*Dominic Adams is a reporter for MLive-Flint Journal. Contact him at **dadams5@mlive.com** or 810-241-8803. Follow him on **Twitter [http://www.twitter.com/dominicadams]** , **Facebook [http://www.facebook.com/dominic.adams.1865]** or **Google+ [https://plus.google.com/103690672506808729911?rel=author]** .*

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Resolution: 130165.2

Presented: 3-11-13

Adopted: 3-25-13

AMENDED RESOLUTION TO PURCHASE CAPACITY FROM KAREGNONDI WATER AUTHORITY

BY THE MAYOR:

The Karegnondi Water Authority (KWA) is a governmental consortium of cities and counties in southeastern Michigan that was created to build a water pipeline that will provide water from Lake Huron to interested communities in Sanilac, Lapeer, and Genesee counties. The incorporating bodies that created the KWA are Sanilac County, Lapeer County, Genesee County, the City of Flint, and the City of Lapeer.

The City of Flint is currently in a year to year contract with the City of Detroit for the purchase of water. A study was conducted that projected that staying with Detroit will cost the region $2.1 billion over the next 25 years. In contrast, if the region builds its own pipeline, the projected costs are $1.9 billion over the same period. After the initial 25 year period, the projected costs would be less then 25% of the projected water costs from Detroit.

In order to build the pipeline, the KWA needs commitment from its members regarding the capacity that each member will purchase in the pipeline. The KWA is allowed to withdraw 85 million gallons of water per day. Capacity is available to members in increments of 1 million gallons per day known as units. For each unit of capacity that a member purchases, the buyer shall pay to the KWA a one time fee of $32,300.00. Additionally, the buyer shall pay to the KWA not less then $32,300.00 per unit per year until such time as water is made available to the buyer. After water is made available, the buyer shall pay to the KWA an estimated amount not to exceed $355,300.00 per unit per year until such time that the bonds are paid in full. If it is determined that the costs per unit will exceed $355,300.00 the buyer has a right to cancel the contract.

The purchase of capacity along with the payment of other costs necessary to operate the pipeline gives the member a right to water for sale to its customers. The buyer has a right to resell capacity and water rights. Each party entering into a capacity contract shall also be entitled to appoint additional board members equal to the party's percentage share of the total capacity under contract.

The City of Flint has decided that it is in its long term best interests to enter into a contract with the KWA to purchase SIXTEEN (16) units of capacity, plus TWO (2) units from the Flint River.

IT IS RESOLVED that City officials are authorized to enter into a contract with KWA to purchase SIXTEEN (16) units of capacity, plus TWO (2) units from the Flint River.

IT IS FURTHER RESOLVED that the City Administrator is authorized to provide KWA information needed to administer the contract and, with approval of the Chief Legal Officer, to make minor (non-material) modifications to the contract.

APPROVED AS TO FORM:

Peter M. Bade
Chief Legal Officer

APPROVED AS TO FINANCE:

Gerald Ambrose
Finance Director

APPROVED BY MAYOR:

Dayne Walling
Mayor

APPROVED BY CITY COUNCIL
ON: March 25, 2013

Inez Brown
Clerk, City of Flint

APPROVED BY
CITY COUNCIL
MAR 25 2013

S:\JP\Ordinances and Resos\KWA.03.08.13.doc

From: Roberts, John (DTMB)
Sent: Wednesday, October 07, 2015 7:20 PM
To: Snyder, Rick
Cc: Muchmore, Dennis (GOV);Agen, Jarrod (GOV);Clement, Elizabeth (GOV);Posthumus, Dick (GOV);Wyant, Dan (DEQ);Duncan, Nancy (DTMB);Scott, Allison (GOV)
Subject: Flint Funding Request
Attachments: City of Flint Water Funding Solution.pdf; ATT00001.htm

Governor –

Attached is a summary of the funding recommendations, from the departments, to address the Flint Water situation. The total state commitment would be $10.4m; $7.9m of that amount is GF/GP. [The DHHS number needs to be verified tomorrow morning, but the final number should be close to this estimate.]

The funding will address 4 priority areas:

1. Provision of filters for residential service;

2. 50% of the estimated cost to reconnect temporarily to the Detroit Water System;

3. Funding for testing water samples; and

4. Other state assistance (e.g., home/school/health facility inspections and follow-up for children with elevated blood levels).

We are preparing a formal supplemental request to transmit to the Legislature tomorrow. I intend to talk with Rep. Pscholka and Sen. Hildenbrand about including this funding in HB 4102, the pending supplemental bill now awaiting House concurrence. Assuming that they agree, we would ask for final action next week.

Are you ok proceeding with these numbers?

John

City of Flint Water - Funding Solution
State of Michigan Commitment

Agency	GF/GP	Gross	Comments
Filters:			
Health & Human Services	$1,016,000	$1,016,000	AY15 work project
Health & Human Services	$0	$1,000,000	DEQ State Restricted Settlement Funds provided to HHS Emergency Services local office (FY16 appropriation).
Subtotal Filters:	**$1,016,000**	**$2,016,000**	
Reconnect to DSW:			**Reconnection costs ~$1.3m/month x 9 mos. to be shared by state & Flint**
Environmental Quality	$5,000,000	$6,000,000	DEQ State Restricted Settlement Fund of $1m; balance GF/GP
Subtotal Reconnect:	**$5,000,000**	**$6,000,000**	
Testing Costs:			
Environmental Quality	$1,000,000	$1,000,000	Additional tests at state lab; cost per sample: $26
Subtotal Testing:	**$1,000,000**	**$1,000,000**	
Additional Agency Support:			
LARA	$0	$200,000	Support for plumbing inspectors to do schools (public and parochial) and health facilities (hospitals, Long Term Care, etc.).
MSHDA	$0	$249,900	
Health & Human Services	$600,000	$600,000	Follow-up on children with elevated blood levels
Environmental Quality	$300,000	$300,000	Home and school inspections.
Subtotal Additional Support:	**$900,000**	**$1,349,900**	
ALL TOTAL	**$7,916,000**	**$10,365,900**	

This Document is a Non-Responsive Attachment.

From:	Wyant, Dan (DEQ)
Sent:	Wednesday, October 14, 2015 1:12 PM
To:	Scott, Allison (GOV);Muchmore, Dennis (GOV);Agen, Jarrod (GOV);Emmitt, Beth (GOV);Bedan, Morgan (GOV)
Cc:	Dickinson, Sarah (GOV);Wyant, Dan (DEQ)
Subject:	2015-10-14 Flint Drinking Water Action Plan Update - FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGED
Attachments:	2015-10-14 Action Steps Week of October 12-16.pdf; 2015-10-14 Flint Drinking Water Action Plan Update.pdf

Dear Governor's Office:

Please provide the following to the Governor as a part of his daily briefing packet. If you have any questions, please let us know.

1. Action Steps Updated Document
2. Flint Drinking Water Action Plan Update

Thank you.

Dan Wyant
Director

City of Flint Water
Action Steps for Week of October 12-16

Step No.	Action Step	Involved Parties	DEQ Point(s) of Contact	Status
1.	Identify schools and prioritize for assessment	GCISD, GCHD, DEQ, DHHS, and Flint	Steve Busch	Completed
2.	Get DLARA plumbers organized	DEQ and DLARA	Steve Busch	DLARA inspectors are ready
3.	Complete sampling instructions	DEQ, DHHS, and EPA	Pat Cook	Incorporating comments from partners
4.	MDARD information for restaurants	MDARD, DHHS, and DEQ	Dana DeBruyn	Comments provided to MDARD
5.	Update 2004 letter to EPA	DEQ	Dana DeBruyn	
6.	Approve Flint plan for water line	DEQ, Flint, and Genesee County	Mike Prysby	Disinfection complete; waiting for test results and completion of system flushing
7.	Lead education plan for schools for drinking water	DHHS and DEQ	Liane Shekter Smith	DEQ working with DHHS to determine who will be the lead
8.	Begin regular meetings with Flint	DEQ and Flint	George Krisztian	Meeting tentatively scheduled for 10/16/15
9.	Schedule Flint Water Treatment Plant tour	DEQ and Flint	George Krisztian	Tour tentatively scheduled for 10/16/15
10.	Meet with schools and DLARA – invitation only	DEQ, DLARA, and Flint schools	Karen Tommasulo	
11.	Update DEQ Web page	DEQ	Karen Tommasulo	Done 10/12/15

Step No.	Action Step	Involved Parties	DEQ Point(s) of Contact	Status
12.	Contact DHHS to see where they are with United Way regarding emergency declaration	DEQ and DHHS	George Krisztian	Completed; DHHS to notify DEQ if status changes
13.	Circulate protocol draft with EPA	DEQ and EPA	Liane Shekter Smith	
14.	Contact city about homeowner sample delivery	DEQ and Flint	George Krisztian	
15.	Communicate to MDARD and Flint that business samples should be coordinated though DEQ laboratory	DEQ, MDARD, and Flint	Liane Shekter Smith George Krisztian	Liane to call MDARD and George to call Flint
16.	Figure out number of samples from schools and child care facilities	DEQ	Liane Shekter Smith Pat Cook Steve Busch	
17.	Confirm Linda Dykema is Point of Contact for DHHS	DEQ	George Krisztian	Done
18.	Contact Karegnondi Water Authority (KWA) to find out if there are any bottlenecks we need to remove	DEQ and KWA	Mike Prysby	Further discussions with Lapeer County may need to take place
19.	Expedite 399 Plan and Phosphate Plan	DEQ and Flint	Mike Prysby	Corrosion control optimization studies in process
20.	Get update on service line index card conversion and identify where partial replacements exist	DEQ and Flint	Steve Busch	
21.	Make sure DHHS gets information so they can cross reference	DEQ and DHHS	Steve Busch	
22.	Legislative contacts	DEQ	Maggie Pallone	Conference call with Sen. Jim Ananich conducted on 10/12/15

Step No.	Action Step	Involved Parties	DEQ Point(s) of Contact	Status
23.	Legislative time line and summary	DEQ	Maggie Pallone	Provided backgrounder and time line to legislators on 10/13/15
24.	Reconnect with State Superintendent Brian Whiston	DEQ and Department of Education	Dan Wyant	Conference call conducted on 10/12/15
25.	Conduct After Action Plan	DEQ	George Krisztian	To be scheduled for 10/15/15
26.	Change Part 54 of NREPA – Drinking Water Revolving Loan Fund	DEQ, Treasury, and EPA	Maggie Pallone Liane Shekter Smith Sonya Butler	

Flint Drinking Water Action Plan Update

FOIA EXEMPT AND ATTORNEY-CLIENT PRIVILEGE

- The preliminary list of schools is completed, has been circulated to DHHS, and has been provided to DLARA to begin plumbing assessments. The list will remain active in case of additional schools requesting assessment/testing.

- DLARA to coordinate with Flint Schools on access for plumbing assessments. Tap coding identification from U.S. Environmental Protection Agency (EPA) guidance to be provided to DLARA.

- Preliminary comments on sampling instructions were received by voice mail from EPA. Need to discuss directly.

- DEQ comments provided to MDARD on information for restaurants, and a draft was forwarded to DHHS for their comments.

- Approve Flint plan for water line – The city of Flint and Genesee County flushed the pipeline beginning October 13; the first set of samples for total coliform analysis was collected around 2:30 a.m. Genesee County planned to collect their second sample for bacteriological analysis between 6 and 8 p.m. last night. It may take additional time to flush the Dort Reservoir before it is ready to be sampled and may set back the time that the pipeline is ready to be placed into operation (October 15 is the soonest possible). The yard piping configuration at the Flint Water Treatment Plant does allow for flexibility in operation and ability to take Dort out of service and maintain supply from Detroit; however, we have not been able to confirm that this is the way Flint plans to proceed.

- An e-mail was sent to DHHS regarding the lead education plan for schools for drinking water to determine if DEQ or DHHS will be the lead and to determine how this effort will be coordinated with broader lead education/outreach efforts.

- The city of Flint has been contacted regarding scheduling regular meetings with DEQ, and the initial meeting is tentatively scheduled for Friday, October 16.

- The city of Flint has been contacted to schedule a tour of the Flint Water Treatment Plant. It is tentatively scheduled to occur in conjunction with the initial meeting. Logistics may require postponement until the week of October 19.

- DHHS has been contacted, and they have indicated that as of 9:30 a.m. on October 13, there has been no formal request for an emergency declaration.

- John O'Brien, Genesee County Drain Commissioner's office, was contacted. The most significant bottleneck to expedite completion of the Karegnondi Water Authority (KWA) pipeline involves road restrictions currently being imposed by the Lapeer County Road Commission and include:
    - All Lapeer County secondary north-south roads are tagged "no construction traffic" for this project except for primary roads (M-19, M-53, and M-24). This significantly increases distances that construction vehicles must travel (upwards of 15 to 20 miles) to accomplish a short jog either north or south.
    - Weight restrictions in the spring will cause construction to slow or stop for one to two months. Lapeer County has indicated that St. Clair and Sanilac are not imposing the weight restrictions; however, Lapeer County will maintain their restrictions.

- DEQ staff indicated there is another potentially serious bottleneck concerning construction of the KWA pipeline. A "stop-work" order could be coming soon from the Lapeer County Road Commission.

- Samir Matta from Lockwood, Andrews & Newnam, Inc. (LAN), Flint's consultant, was contacted for an update on the corrosion control plan and submittal of the Act 399 permit application. Flint operators, with the assistance of LAN, conducted bench tests using a corrosion inhibitor (orthophosphate) and are making comparisons for use with (treated water from Detroit vs. water treated from the Flint River). LAN is currently preparing plans and a design for installation of an orthophosphate feed system. LAN expects to submit the Act 399 permit application to the DEQ by no later than the end of this week.

Prepared by: George Krisztian, Flint Action Plan Coordinator
Laboratory Director
Department of Environmental Quality
Telephone: 517-284-6719
Cell: 517-204-0381
October 14, 2015

From: Karen Teeples <K_TEEPLES@gcdcwws.com>
Sent: Thursday, October 15, 2015 3:48 PM
To: Muchmore, Dennis (GOV);Wyant, Dan (DEQ);Workman, Wayne (TREASURY)
Subject: contract between Flint and Genesee County
Attachments: SKM_C554e15101515460.pdf

Drain Commissioner Jeff Wright wanted you to have a copy of the contract signed today.

LICENSE TO TRANSMIT WATER

This License to Transmit Water ("License") entered into on October 14, 2015, (the "License Date" and "Effective Date") is made between the City of Flint, a Home Rule City (the "City"), and the Genesee County Drain Commissioner, as County Agency, a county agency pursuant to the County Public Improvement Act 342 of 1939, as amended, ("GCDC"). The City and GCDC may be referred to individually as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, the City has requested the Detroit Water and Sewerage Department ("DWSD") to provide the City with potable water; and

WHEREAS, DWSD water distribution system has no physical connection to the City water distribution system; and

WHEREAS, GCDC is currently purchasing potable water from DWSD and GCDC is receiving DWSD water at the water meter GN-01 near Baxter and Potter Roads, located in Genesee County and more fully set forth in Exhibit 1 (hereinafter known as "GCDC/DWSD Connection"); and

WHEREAS, GCDC has a physical connection to the City water distribution system near Center Road and Pierson Road in Genesee Township, Genesee County, Michigan, which is more fully set forth in Exhibit 2 (hereinafter known as "GCDC/City Connection"); and

WHEREAS, GCDC owns nine (9) miles of water transmission pipeline ("Pipeline") that connects the GCDC/DWSD Connection to the GCDC/City Connection; and

WHEREAS, GCDC has the ability to allow Flint to transmit water through the Pipeline from the GCDC/DWSD Connection to the GCDC/City Connection so DWSD may service the City with DWSD treated potable water; and

WHEREAS, this License shall govern the terms and conditions of Flint transmitting water through the Pipeline from the DWSD/GCDC Connection to the GCDC/City Connection; and

WHEREAS, the Parties hereto acknowledge and agree that DWSD may assign its contract to provide potable water to the City to another entity, including, but not limited to, the Great Lakes Water Authority, and, if DWSD assigns its contract to provide water to the City, all reference to DWSD in this License shall be replaced by the party to whom DWSD assigns its contract.

NOW, THEREFORE, THIS LICENSE is hereby made and mutually entered into by the City and GCDC for the mutual consideration stated herein and the Parties agree to the following:

1. **Adoption of Recitals.** All of the matters stated in the Recitals of this License are true and correct and are hereby incorporated into the body of this License as though fully set forth in their entirety herein. However, in cases of conflict, provisions of this License shall prevail over the matters stated in the Recitals.

2. **Contract for Water.** As a condition precedent to this License being effective, the City shall enter into a contract with DWSD for DWSD to supply the City with water and said contract shall require the City to pay DWSD directly for all water consumed by the City and any applicable charges, fees, or other amounts charged by DWSD. The City shall hold GCDC harmless from any and all debts the City incurs from receiving water from DWSD and any and all costs that DWSD may impose on GCDC as a result of the City receiving water from DWSD.

3. **Term.** The Parties hereto understand and acknowledge that GCDC needs the Pipeline to transmit its potable water to its customers once GCDC starts receiving raw water from KWA. The Parties agree and acknowledge that this License shall expire sixty (60) days after the City has received notice from KWA that raw water is available for the City for treatment; however, the City may request GCDC to extend this License until GCDC starts receiving raw water from KWA. The City shall not transmit water through the Pipeline after GCDC begins to transmit its potable water to its customers. The City acknowledges and consents to GCDC terminating any water transmission in the Pipeline for the benefit of the City once GCDC begins to produce and sell its potable water to its customers. The City may terminate this License by providing GCDC with thirty (30) days written notice of termination.

4. **Consideration.** In exchange for GCDC allowing the City to transmit water through the Pipeline, the City shall pay GCDC one dollar ($1.00) per month for the term of this License. The City is allowed to pay the first nine (9) months in a lump sum payment.

5. **Meters and Billing.** The City hereby grants GCDC complete access to and upon verbal request by GCDC complete control of Station 2, including, but not limited to, all meters, valves, structures, and appurtenances until the Karegnondi Water Authority ("KWA") has notified the City that water is available to the City for treatment or GCDC has provided the City with thirty (30) days notice that GCDC no longer requires access to Station 2. GCDC shall have the meter calibrated within fifteen (15) days of the execution of this License and all costs for the calibration shall be the responsibility of the City. The City shall be entitled to all data, meter reads, and other information that is collected by GCDC at Station 2. The City shall be responsible for all utility costs associated with the operation of Station 2. The City shall be responsible for all repairs to the meter and meter pit. GCDC shall notify DWSD of the monthly meter read for Station 2.

6. **Transmission of Water.** GCDC shall use reasonable diligence to allow the City regular and uninterrupted transmission of water through the Pipeline from the GCDC/DWSD Connection to the GCDC/City Connection; however, Flint shall hold harmless and indemnify GCDC for any damages, breach of contract, or otherwise for interruption of service or curtailment of supply for any cause beyond the control of GCDC. These could include, but are not limited to, Acts of God, strikes, lockouts or other industrial disturbances, acts of public enemy, orders of any kind of the Government of the United States or the State, or any civil or military authority, insurrection, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals, partial or failure of the Pipeline or appurtenances. The City shall further hold GCDC harmless from any claim for damages related to continuity of service by third parties, including DWSD, for GCDC's inability to allow the transmission of water due to any cause beyond the control of GCDC.

7. **Water Quality.** The City shall hold GCDC harmless from any water quality related claim for damages by third parties, including DWSD, served by the City, which are asserted against, or are imposed upon or incurred by GCDC and which result from, relate to, or arise out of a claim regarding the treatment of water or the quality of water.

8. **Volume Available.** The City shall hold GCDC harmless in the event that DWSD cannot meet the volume demands of both GCDC and the City. GCDC shall be entitled to receive the quantity of water requested by GCDC and the City shall be entitled to any remaining volume of water. The City shall notify GCDC daily of its anticipated water volume for that day and GCDC shall be responsible for notifying DWSD of the water volume demands for both GCDC and the City.

9. **Pipeline Malfunction.** If the Pipeline shall malfunction for any reason while the City is transmitting water through the Pipeline, GCDC shall notify the City within two (2) hours of verifying the Pipeline malfunction. Thereafter, the malfunction shall be promptly repaired by GCDC and a detailed invoice for one-half (1/2) of the total cost of the repair shall be submitted to the City. The City shall have thirty (30) calendar days to process and authorize the payment for the repair to GCDC. Payment shall be made to GCDC within thirty–two (32) calendar days by either check or wire transfer. Wire transfer instructions are available from the GCDC Chief Financial Officer. The City shall indemnify and hold GCDC harmless for any and all claims from the City or third parties that relate to the City not being able to supply water to its customers due to the malfunction.

10. **Severability.** The Parties hereto specifically agree that in case any one or more of the sections, subsections, provisions, clauses or words of this License or the application of such sections, subsections, provisions, clauses or words to any situation or circumstance should be, or should be held to be, for any reason, invalid or unconstitutional, under the laws or constitutions of the State or the United States of America, or in contravention of any such laws or constitutions, such invalidity, unconstitutionality or contravention shall not affect any other sections, subsections, provisions, clauses or words of this License or the application of such sections, subsections, provisions, clauses or words to any other situation or circumstance, and it is intended that this License shall be severable and shall be construed and applied as if any such invalid or unconstitutional section, subsection, provision, clause or word had not been included herein, and the rights and obligations of the Parties hereto shall be construed and remain in force accordingly.

11. **Governing Law and Venue.** It is specifically agreed among the Parties to this License that Genesee County, State of Michigan is the place of performance of this License. In the event that any legal proceeding is brought to enforce this License or any provision hereof, the same shall be brought in the Genesee County Circuit Court.

12. **Interpretation and Construction.** For purposes of interpretation and construction of this License, both the City and GCDC shall be deemed to have been the drafter of this License and this License shall not be construed against any Party to this License.

13. **Modification.** This License shall not be modified, altered, or amended except through a written amendment signed by the Parties.

14. **No Third Party Beneficiaries.** This License is not intended to confer upon any person or entity, other than the Parties hereto, any rights or remedies of any kind or nature whatsoever.

15. **Notices.** Other than invoices and payments, any notice, communication, request, reply or advice (herein severally and collectively, for convenience, called "Notice") herein provided or permitted to be given, made or accepted by any Party to any other Party must be in writing and may be given or be served by depositing the same in the United States mail postpaid and registered or certified and addressed to the Party to be notified, with return receipt requested, or by delivering the same to an officer of such Party, or by prepaid telegram when appropriate, addressed to the Party to be notified. Notice deposited in the mail in the manner described above shall be conclusively deemed to be effective, unless otherwise stated herein, from and after the expiration of three (3) days after it is so deposited. Notice given in any other manner shall be effective only if and when received by the Party to be notified. For the purposes of notice, the addresses of the Parties shall, until changed as hereinafter provided, be as follows:

To GCDC: **Genesee County Drain Commissioner's Office, Division of Water and Waste Services, G-4610 Beecher Road, Flint, Michigan 48532.**

To the City: **City of Flint, 1101 South Saginaw Street, Flint, Michigan 48502.**

The Parties hereto shall have the right from time to time and at any time to change their respective addresses and each shall have the right to specify as its address any other address by at least fifteen (15) days written notice to the other Party hereto.

IN WITNESS WHEREOF, the Parties hereto acting under authority of their respective governing bodies have caused this License to be duly executed in several counterparts, each of which shall constitute an original, all as of the day and year first above written, which is the License and Effective Date.

GCDC:

By: Jeff Wright
Its: Drain Commissioner

CITY:

By: Natasha Henderson
Its: City Administrator

By: Dayne Walling
Its: Mayor

Attest:

By:

By:

This License was prepared by:
Attorney Kevin Kilby (P68599)
McGraw Morris P.C.
2075 West Big Beaver Road
Suite 750
Troy, Michigan 48084
Phone: (248) 502-4000
Facsimile: (248) 502-4001
Email: kkilby@mcgrawmorris.com

Approved as to form by:

Peter M. Bade (P47346)
Chief Legal Officer
City of Flint
1101 South Saginaw Street, Room 307
Flint Michigan 48502

N:\GCDC\2155-1000 (General)\Contracts and Agreements\DWSD regarding transmission of water\License to Transmit Water between Flint and GCDC Draft Date October 14 2015 Final Execution Copy.doc

Exhibit 1
Location of GCDC/DWSD Connection

Exhibit 2
Location of GCDC/Flint

150875

RESOLUTION NO.: _____

PRESENTED: 10-12-15

ADOPTED: _____

RESOLUTION AUTHORIZING THE CITY ADMINISTRATOR TO TAKE NECESSARY ACTION TO CONVERT TO THE DETROIT WATER SYSTEM

BY THE CITY ADMINISTRATOR:

In order to promote the health, safety and welfare of this community, it is in the best interests of the City of Flint for the Detroit Water and Sewer Department (DWSD) to supply the City with treated water pending completion of the Karegnondi Water Authority; and

In order for DWSD to supply the City with water, it will be necessary to utilize pipe owned by the Genesee County Drain Commission (GCDC); and

The City, DWSD and GCDC are actively negotiating the terms of the necessary agreements to ensure this transition occurs as soon as possible; and

IT IS RESOLVED that the City Administrator is hereby authorized to enter into agreements with DWSD and GCDC for conversion to the Detroit Water System.

APPROVED AS TO FORM:

Peter M. Bade, City Attorney

Jody N. Lundquist, Chief Financial Officer

FOR THE CITY OF FLINT:

Natasha L. Henderson, City Administrator

APPROVED BY CITY COUNCIL:

PRESENTED TO CITY COUNCIL: 10/12/2015

ADOPTED BY CITY COUNCIL: 10/12/2015

From: Anderson, Madhu (DEQ)
Sent: Wednesday, December 09, 2015 3:57 PM
To: lawrenceR@mottchc.org
Cc: Chris Kolb;Ken Sikkema (ksikkema@pscinc.com);mattdav@med.umich.edu;erothste@grg-ltd.com;Wyant, Dan (DEQ);Baird, Richard (GOV);lrey52@gmail.com
Subject: Requested Emails
Attachments: DWSD back up agreement; FW: Proposed Water Monitoring - City of Flint; Re: Proposed Water Monitoring - City of Flint; RE: Proposed Water Monitoring - City of Flint; SCAN1458.pdf; Re: Proposed Water Monitoring - City of Flint; Proposed Water Monitoring - City of Flint

Dr. Lawrence, I have attached to this correspondence all emails and replies exchanged between Mike Glasgow and Flint Water Department/Staff with Michigan DEQ staff between the dates of April 13 and April 30, 2014, as requested.

I apologize for the length of time it has taken to get these to you. Please let me know if we can provide any other information.

Madhu R. Anderson
Deputy Director, Economic and Strategic Initiatives
☎ 517 284 6702 | 517 290 9653
✉ andersonm30@michigan.gov

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Thursday, April 24, 2014 12:03 PM
To: Prysby, Mike (DEQ);Busch, Stephen (DEQ);Howard Croft
Subject: DWSD back up agreement

Hello Steve and Mike. As you are aware, the City has undergone extensive upgrades to our Water Treatment Plant and it's associated facilities. Our intentions and efforts have been to operate our facility as the primary drinking water source for the City of Flint. Through consultation with your office and our engineering firm we've developed a system of redundant electrical systems, treatment processes and adequate finished water storage to negate the need for a signed back up agreement with DWSD due to their termination of our contract. Upon inspection of these facilities would you convey your concurrence that there is no regulatory requirement for us to sign a back up agreement with DWSD.

Thank you
Daugherty Johnson
Utilities Administrator
City of Flint

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 16, 2014 1:01 PM
To: Busch, Stephen (DEQ);Prysby, Mike (DEQ)
Subject: FW: Proposed Water Monitoring - City of Flint

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, April 16, 2014 12:59 PM
To: Rosenthal, Adam (DEQ)
Subject: Proposed Water Monitoring - City of Flint

Adam,

Good afternoon, I am contacting you in regards to possible changes in our monitoring for our change to full time operation out of the Flint river. I am expecting changes to our Water Quality Monitoring parameters, and possibly our DBP and lead & copper monitoring plan. Also, I am wondering about our MOR required testing. I know you have probably been in contact with Howard Croft, however I have not seen anything except the notes you or Prysby made on the last page of our 2014 monitoring schedule "that things were subject to change". Any information would be greatly appreciated, because it looks as if we will be starting the plant up tomorrow and are being pushed to start distributing water as soon as possible. As the acting F-1, I would like to make sure we are monitoring, reporting and meeting our requirements before I give the O.K to start distributing water.

Thanks,

Mike Glasgow
Laboratory & Water Quality Supervisor
City of Flint Water Plant
(810)787-6537 ext. 3512

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Thursday, April 17, 2014 11:05 AM
To: Rosenthal, Adam (DEQ)
Cc: Prysby, Mike (DEQ);Busch, Stephen (DEQ)
Subject: Re: Proposed Water Monitoring - City of Flint

Adam,

Thank you for the quick response. I assumed there would be dramatic changes to our monitoring. I have people above me making plans to distribute water ASAP. I was reluctant before, but after looking at the monitoring schedule and our current staffing, I do not anticipate giving the OK to begin sending water out anytime soon. If water is distributed from this plant in the next couple weeks, it will be against my direction. I need time to adequately train additional staff and to update our monitoring plans before I will feel we are ready. I will reiterate this to management above me, but they seem to have their own agenda.

Thank you,

Mike Glasgow
Laboratory & Water Quality Supervisor
City of Flint Water Plant

On Wed, Apr 16, 2014 at 2:49 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Mike, we have been working on a revised schedule for the City of Flint, which is being sent out today in response to your email indicating the plant startup. Mike Prysby must have been the one in contact with Mr. Croft, not sure what was discussed. Mike is out and will return 4/21/14. Until then our supervisor, Steve Bush, can be contacted at 517-643-2314 for plant operation questions.

see attached schedule.

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, April 16, 2014 12:59 PM
To: Rosenthal, Adam (DEQ)
Subject: Proposed Water Monitoring - City of Flint

Adam,

Good afternoon, I am contacting you in regards to possible changes in our monitoring for our change to full time operation out of the Flint river. I am expecting changes to our Water Quality Monitoring parameters, and possibly our DBP and lead & copper monitoring plan. Also, I am wondering about our MOR required testing. I know you have probably been in contact with Howard Croft, however I have not seen anything except the notes you or Prysby made on the last page of our 2014 monitoring schedule "that things were subject to change". Any information would be greatly appreciated, because it looks as if we will be starting the plant up tomorrow and are being pushed to start distributing water as soon as possible. As the acting F-1, I would like to make sure we are monitoring, reporting and meeting our requirements before I give the O.K to start distributing water.

Thanks,

Mike Glasgow

Laboratory & Water Quality Supervisor

City of Flint Water Plant

(810)787-6537 ext. 3512

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 16, 2014 2:50 PM
To: Michael Glasgow
Cc: Prysby, Mike (DEQ);Busch, Stephen (DEQ)
Subject: RE: Proposed Water Monitoring - City of Flint
Attachments: 2014 Flint MS startup.doc; 2014 Flint revised MS-SBrev.doc; Flint MS Enclosure.doc

Mike, we have been working on a revised schedule for the City of Flint, which is being sent out today in response to your email indicating the plant startup. Mike Prysby must have been the one in contact with Mr. Croft, not sure what was discussed. Mike is out and will return 4/21/14. Until then our supervisor, Steve Bush, can be contacted at 517-643-2314 for plant operation questions.

see attached schedule.

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, April 16, 2014 12:59 PM
To: Rosenthal, Adam (DEQ)
Subject: Proposed Water Monitoring - City of Flint

Adam,

Good afternoon, I am contacting you in regards to possible changes in our monitoring for our change to full time operation out of the Flint river. I am expecting changes to our Water Quality Monitoring parameters, and possibly our DBP and lead & copper monitoring plan. Also, I am wondering about our MOR required testing. I know you have probably been in contact with Howard Croft, however I have not seen anything except the notes you or Prysby made on the last page of our 2014 monitoring schedule "that things were subject to change". Any information would be greatly appreciated, because it looks as if we will be starting the plant up tomorrow and are being pushed to start distributing water as soon as possible. As the acting F-1, I would like to make sure we are monitoring, reporting and meeting our requirements before I give the O.K to start distributing water.

Thanks,

Mike Glasgow
Laboratory & Water Quality Supervisor
City of Flint Water Plant
(810)787-6537 ext. 3512

2014 Monitoring Schedule

FLINT, CITY OF

WSSN: 02310

Collect samples early in the monitoring period. This schedule reflects your expected routine monitoring and is subject to change. To receive credit for monitoring, include the **WSSN, Site Code**, and **County** on your request for analysis form. Collect Bacteriological and Automated Partial Chemistry samples close to the shipping time and send overnight delivery. Send all sample results to your Department of Environmental Quality (DEQ) district office unless you use the DEQ laboratory. Test codes, sample units, and costs are listed to help you complete the DEQ laboratory form. Prices are subject to change without notice. The DEQ laboratory is closed on state holidays.

Location: Plant Tap

Collect these samples at the entry point to the distribution system (after treatment, if applicable.)

Sample Type	# Samples/ Frequency	Collect Before	Site Code	Fee	Unit Number	Test Code
Automated Partial Chemistry	This DEQ lab scan includes nitrate, nitrite, fluoride, and sodium whose monitoring frequency requirements differ from one another. Before requesting analyses from a laboratory other than the DEQ laboratory, check with your DEQ district staff for the specific monitoring requirements.					
	1/3 months	**Quarterly**	TP001	$18.00	32	R
Volatile Organic Compounds	1/3 months	**Quarterly**	TP001	$100.00	36VO	CXVO
Complete Metals	1/36 months	**09/30/2014**	TP001	$102.00	36ME	CMET2
Arsenic	1/3 months	**Quarterly**	TP001	$18.00	36ME	CAS
Cyanide	1/3 months	**Quarterly**	TP001	$25.00	36CNa	CCN
SOC – Pesticides	1/3 months	**Quarterly**	TP001	$125.00	36PT	CXPT
SOC – Herbicides	1/3 months	**Quarterly**	TP001	$120.00	36HB	CXHB
SOC – Carbamates	1/3 months	**Quarterly**	TP001	$120.00	36LP	CXLP
Gross Alpha (Radiological)	1/3 months	**Quarterly**	TP001	Not performed at the DEQ Laboratory. A list of certified labs is at www.michigan.gov/DEQ. Select Water, Drinking Water, Community Water Supply, then Certified Labs under Programs and Activities.		
Radium 226 & Radium 228	1/3 months	**Quarterly**	TP001			
Water Quality Parameters	Bi-weekly	**Every 2 Weeks**	TP001	Various	Various	Various
Total Organic Carbon (TOC)	Pair/Monthly	**Monthly**	TP001	$35.00	36TO	CTOC
	Monitor for TOC in the source water before any treatment at the same time as monitoring for TOC in the treated water. These samples (source water and treated water) are referred to as "paired samples." Collect the treated water sample not later than the point of combined filter effluent turbidity monitoring and representative of treated water.					
Expanded SOCs						
Dalapon & Haloacetic Acids	1/12 months	**Between 04/01 and 09/30/2014**	TP001	$130.00	36HA	CXHA
Diquate	1/12 months	**Between 04/01 and 09/30/2014**	TP001	$150.00	36DQ	CXDQ
Endothall	1/12 months	**Between 04/01 and 09/30/2014**	TP001	$150.00	36EN	CXEN
EDB & DBCP	1/12 months	**Between 04/01 and 09/30/2014**	TP001	$70.00	36VO	CXEV

2014 Monitoring Schedule

FLINT, CITY OF

WSSN: 02310

Collect samples early in the monitoring period. This schedule reflects your expected routine monitoring and is subject to change. To receive credit for monitoring, include the **WSSN, Site Code**, and **County** on your request for analysis form. Collect Bacteriological and Automated Partial Chemistry samples close to the shipping time and send overnight delivery. Send all sample results to your Department of Environmental Quality (DEQ) district office unless you use the DEQ laboratory. Test codes, sample units, and costs are listed to help you complete the DEQ laboratory form. Prices are subject to change without notice. The DEQ laboratory is closed on state holidays.

Location: Distribution System

Sample Type	Collect Samples According to the ...	# Samples/ Frequency	Collect	Site Code	Fee	Unit Number	Test Code
Bacteriological – coliforms	TCR Sampling Site Plan	100/Monthly	**Monthly**	DIST	$16.00	30	BPTC
Chlorine Residual	DBP Monitoring Plan	Measure the residual disinfectant level at the same point and at the same time as the bacteriological sample and report the average to the DEQ.					
Lead Copper for Corrosion Control	Lead and Copper Sampling Pool	100/6 months	**Between 07/01 and 12/31/2014**	DIST	$26.00	36CC	CCUB
Water Quality Parameters	Representative Sites	25/Quarterly	**Quarterly**	DIST	Various	Various	Various
Total Trihalomethanes	DBP Monitoring Plan	8/3 months	**During February, May, August and November 2014**	See DBP Monitoring Plan	$65.00	36VO	CXTM
Haloacetic Acids		8/3 months	**During February, May, August and November 2014**	See DBP Monitoring Plan	$130.00	36HA	CXHA

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

April 16, 2014

Mr. Brent Wright
City Of Flint – D.P.W
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Revised Drinking Water Monitoring Schedule – 2014
Monthly Operation Reports
Siting Plans and Record Keeping

Monitoring Schedule:

Enclosed is your revised Drinking Water Monitoring Schedule for calendar year 2014 outlining the minimum requirements for your public water supply. Your schedule has been revised based on the City's intent to change the source of its drinking water from the Detroit Water and Sewerage Department to treatment of the Flint River utilizing the City's Water Treatment Plant. Collect samples early in the monitoring period of the year indicated on the schedule. If you use a private laboratory you are required to report the results to us within the first ten days of the month following the month that you received the results. To receive credit for monitoring, the **"WSSN"** (water supply serial number), the **"Site Code,"** and **"County"** must appear on the sample result. Bottles will NOT be mailed automatically. If you use the Department of Environmental Quality Laboratory, you can order bottles by calling 517-335-8184. Be certain of the United States Environmental Protection Agency sampling and analysis method requirements for hold times.

Please note that both distribution and entry point to the distribution system monitoring will increase upon plant startup.

Monthly Operation Report (MOR) Requirements:

The City shall submit MORs as required under Administrative Rule 1502 (R325.11502). In addition to plant operational data collected and as noted in the attached schedule, the City of Flint will be required to collect Total Organic Compounds (TOC) samples from the source and finish water on a monthly basis. You will also be required to collect Water Quality Parameters (WQPs) at your entry point every 2 weeks. The City must also demonstrate adequate contact time (CT) for disinfection in accordance with Administrative Rule 1505a (R325.11505a).

Disinfection By-Product Sample Siting Plans:

The City of Flint must return to routine standard monitoring of disinfection by-products, and a revised Disinfection & Disinfectants By-Product (DDBP) plan must be submitted, which identifies 4 additional sites, 8 sites in total, for routine quarterly monitoring. These sites must be selected in accordance with the Stage 2 DDBP Rule and supporting documentation must be submitted with the plan for review and approval by this office prior to monitoring.

Lead and Copper Monitoring Requirements and Site Sample Pool

This change in source also increases your distribution system monitoring for WQPs to 25 samples per 6 months and 100 sample locations for Lead & Copper for 2 consecutive 6 month rounds of monitoring. The City will need to expand its current sample site pool in accordance with the requirements of Administrative Rule 710a (R325.10710a). A list of the proposed sample site pool locations, including each site's Tier, sample category, service material, and building plumbing material, shall be submitted to this office for review and approval.

Record Keeping:

The City shall maintain all monitoring records in accordance with all applicable requirements under the Administrative Rules including Rule 720a (R325.10720a), Rule 1506 (R325.11506), and Rule 1507 (R325.11507).

The Michigan Safe Drinking Water Act requires certain reports to be submitted to this office each year. Please remember that cross connection reports and annual pumpage reports are due by March 31, and the **Consumer Confidence Report** is due by July 1.

Also enclosed is the document "2014 Monitoring and Reporting Requirements." This provides additional details about monitoring and reporting requirements. If you have any questions, please contact us by telephone or e-mail using the information below.

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-290-8817

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

Enclosure

cc/encl: Mr. Robert Bisnick, City Of Flint
Genesee Co. Health Dept.

2014 Monitoring and Reporting Requirements

Please Monitor Early: Collect samples early in the monitoring period (month, quarter, year) of the year indicated on the schedule. Bacteriological and partial chemistry samples should be collected close to the shipping time and sent overnight delivery to assure sample holding times are not exceeded (30 and 48 hour hold times respectively). We also recommend avoiding mailing bacteriological samples immediately preceding or following a holiday because samples tend to exceed the 30 hour hold time. When this occurs, a repeat sample must be collected as soon as possible upon notification.

If you use a private laboratory please report the results to us within the first ten days of the month following the month that you received the results. A list of certified laboratories is available on request. If samples are not collected as indicated on your monitoring schedule, you will incur a monitoring violation and may also be subject to a fine. For information on the fines policy, visit http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Administrative Fines (under Laws and Rules).

To receive credit for monitoring, you must include the **"WSSN"** (water supply serial number), the **"Site Code,"** and the **"County"** when you submit samples for analysis. Site codes are listed on your monitoring schedule.

Special Instructions If You Use The DEQ Laboratory: Bottles will NOT be mailed automatically. To order bottles, call the DEQ Laboratory at 517-335-8184 or download the form EQP 2301 *Requisition for Water Sample Units* from www.michigan.gov/deq. Click on Key Topics, Laboratory Services, Drinking Water, Obtaining The Necessary Sampling Units, and 'test list'. Please note that the DEQ laboratory is closed on most state holidays. The DEQ laboratory prices are subject to change without notice.

Special Instructions For Automated Partial Chemistry, VOC and TTHM Samples: These sample bottles must be cooled and preserved during shipment to the laboratory. If you use the DEQ laboratory, you will receive the ice pack, acid dropper (if necessary) and small cooler when you request the bottles. Samples must be preserved correctly to be used for compliance purposes. To avoid resampling follow instructions contained with the sample bottle. If you would like more information, contact the DEQ lab, at 517-335-8184, or contact this office.

Cyanide: Previously, supplies that chlorinated the water were waived from monitoring for cyanide. The U.S. EPA now requires all supplies to sample the entry point for cyanide.

UCMR3 Monitoring: You may have monitoring requirements in 2014 under the third Unregulated Contaminant Monitoring Rule (UCMR3). The U.S. EPA will contact you directly if your water supply is required to monitor in 2014. A list of laboratories certified to analyze the samples collected for UCMR3 is available at http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/upload/lablist.pdf. Contact the U.S. EPA with questions.

Reminder if Lead and Copper Monitoring Due This Year: You must provide individual lead tap results to people who receive water from sites that were sampled, even if lead was not detected, within 30 days of learning of results. You must also send us a certification that you met all the delivery requirements along with a sample copy of the customer notice within 3 months after the end of the monitoring period. Water supplies that failed to distribute the Consumer Notice of Lead Results must include the following

statement in their CCR, "During the year, we failed to provide lead results to persons served at the sites that were tested as required by the Lead and Copper Rule." To download the *Lead and Copper Report and Consumer Notice of Lead Result Certificate* in Microsoft Word or PDF format, visit www.michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, and Reporting Forms (under Manuals, Forms & Brochures).

Annual Reports: Act 399 requires certain reports to be submitted to this office each year.

- The **Cross Connection Report**, due by March 31, describes the status of your local cross connection control program. Manufactured housing communities are exempt from this requirements until 2016.

  Each year, water supplies must submit a report regardless of whether a formal program has been implemented. If cross connections do not exist in your water system, indicate so on the report. Download the Cross Connection Report form from http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, Reporting Forms (under Manuals, Forms & Brochures). Instructions are included with the form.

- The **Annual Pumpage/Usage Report**, due by March 31, is required of water supplies that do not submit monthly operation reports.

  A summary of water pumpage and water use must be submitted by each water supply that does not submit a monthly operation report. To manage our natural resources, pumpage data are compiled to determine water use demands in Michigan. Download the Annual Pumpage/Usage Report form from http://michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, Reporting Forms (under Manuals, Forms & Brochures). Please be sure to indicate the appropriate units on the report (e.g. million gallons or gallons).

- The **Consumer Confidence Report**, due by July 1 to your customers, to your local health department and to this office.

  Electronic delivery methods may be used to distribute the CCR to bill-paying customers, provided they are direct. For more information on e-delivery, visit www.michigan.gov/deq. Click on Water, Drinking Water, Community Water Supply, Consumer Confidence Report Rule (under Laws and Rules).

Prysby, Mike (DEQ)

From: Daugherty Johnson <djohnson@cityofflint.com>
Sent: Thursday, April 24, 2014 12:03 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Howard Croft
Subject: DWSD back up agreement

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Hello Steve and Mike. As you are aware, the City has undergone extensive upgrades to our Water Treatment Plant and it's associated facilities. Our intentions and efforts have been to operate our facility as the primary drinking water source for the City of Flint. Through consultation with your office and our engineering firm we've developed a system of redundant electrical systems, treatment processes and adequate finished water storage to negate the need for a signed back up agreement with DWSD due to their termination of our contract. Upon inspection of these facilities would you convey your concurrence that there is no regulatory requirement for us to sign a back up agreement with DWSD.

Thank you
Daugherty Johnson
Utilities Administrator
City of Flint

Prysby, Mike (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Thursday, April 17, 2014 11:05 AM
To: Rosenthal, Adam (DEQ)
Cc: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: Re: Proposed Water Monitoring - City of Flint

Adam,

Thank you for the quick response. I assumed there would be dramatic changes to our monitoring. I have people above me making plans to distribute water ASAP. I was reluctant before, but after looking at the monitoring schedule and our current staffing, I do not anticipate giving the OK to begin sending water out anytime soon. If water is distributed from this plant in the next couple weeks, it will be against my direction. I need time to adequately train additional staff and to update our monitoring plans before I will feel we are ready. I will reiterate this to management above me, but they seem to have their own agenda.

Thank you,

Mike Glasgow
Laboratory & Water Quality Supervisor
City of Flint Water Plant

On Wed, Apr 16, 2014 at 2:49 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Mike, we have been working on a revised schedule for the City of Flint, which is being sent out today in response to your email indicating the plant startup. Mike Prysby must have been the one in contact with Mr. Croft, not sure what was discussed. Mike is out and will return 4/21/14. Until then our supervisor, Steve Bush, can be contacted at 517-643-2314 for plant operation questions.

see attached schedule.

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

17-241-3571

From: Michael Glasgow [mailto:mglasgow@cityofflint.com]
Sent: Wednesday, April 16, 2014 12:59 PM
To: Rosenthal, Adam (DEQ)
Subject: Proposed Water Monitoring - City of Flint

Adam,

Good afternoon, I am contacting you in regards to possible changes in our monitoring for our change to full time operation out of the Flint river. I am expecting changes to our Water Quality Monitoring parameters, and possibly our DBP and lead & copper monitoring plan. Also, I am wondering about our MOR required testing. I know you have probably been in contact with Howard Croft, however I have not seen anything except the notes you or Prysby made on the last page of our 2014 monitoring schedule "that things were subject to change". Any information would be greatly appreciated, because it looks as if we will be starting the plant up tomorrow and are being pushed to start distributing water as soon as possible. As the acting F-1, I would like to make sure we are monitoring, reporting and meeting our requirements before I give the O.K to start distributing water.

Thanks,

Mike Glasgow

Laboratory & Water Quality Supervisor

City of Flint Water Plant

(810)787-6537 ext. 3512

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Mike Glasgow

Laboratory & Water Quality Supervisor

City of Flint Water Plant

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Thanks,

Mike Glasgow
Laboratory & Water Quality Supervisor
City of Flint Water Plant
(810)787-6537 ext. 3512

From: Lyon, Nick (DHHS)
Sent: Tuesday, December 08, 2015 11:27 AM
To: Baird, Richard (GOV);Wyant, Dan (DEQ);Clement, Elizabeth (GOV)
Cc: Grijalva, Nancy (DHHS)
Subject: FW: Flint Briefing 4Dec15
Attachments: 2015-12-04 - Flint Lead MDHHS Sitrep.pdf

Rich – Per our conversation. Dan/Beth – FYI.

From: Bouters, Janese (DHHS)
Sent: Monday, December 07, 2015 5:07 PM
To: Anderson, Paula (DHHS) <AndersonP3@michigan.gov>; Barr, Jacqui (DHHS) <BarrJ3@michigan.gov>; Becker, Timothy (DHHS) <beckert1@michigan.gov>; Bruneau, Michelle (DHHS) <BruneauM@michigan.gov>; Colston, Leslie (DHHS) <ColstonL@michigan.gov>; DeMyers, Deborah (DHHS) <DeMyersD@michigan.gov>; Dykema, Linda D. (DHHS) <DykemaL@michigan.gov>; Eggleston, Debbie (DHHS) <egglestond@michigan.gov>; Eisner, Jennifer (DHHS) <EisnerJ@michigan.gov>; Granger, Patricia (DHHS) <GrangerP@michigan.gov>; Grijalva, Nancy (DHHS) <GrijalvaN@michigan.gov>; Groetsch, Kory J. (DHHS) <GroetschK@michigan.gov>; Harvey, Janice (DHHS) <HarveyJ1@michigan.gov>; Hertel, Elizabeth (DHHS) <HertelE@michigan.gov>; Kaiser Van Dam, Paula (DHHS) <KaiserP@michigan.gov>; Lasher, Geralyn (DHHS) <lasherg@michigan.gov>; Lyon, Nick (DHHS) <LyonN2@michigan.gov>; McKane, Patricia (DHHS) <McKaneP@michigan.gov>; Miller, Corinne (DHHS) <MillerC39@michigan.gov>; Minicuci, Angela (DHHS) <MinicuciA@michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Peeler, Nancy (DHHS) <PeelerN@michigan.gov>; Priem, Wesley F. (DHHS) <priemw@michigan.gov>; Priest, Chris (DHHS) <PriestC1@michigan.gov>; Ridley, Nancy (DHHS) <RidleyN@michigan.gov>; Robinson, Mikelle (DHHS) <RobinsonM18@michigan.gov>; Rockefeller, Cheryl (DHHS) <RockefellerC@michigan.gov>; Scott, Jackie (DHHS) <ScottJ14@michigan.gov>; Shah, Sandip (DHHS) <shahs@michigan.gov>; Sims, Teri (DHHS) <SimsT2@michigan.gov>; Stanbury, Martha (DHHS) <stanburym@michigan.gov>; Stiffler, Kathleen A. (DHHS) <StifflerK@michigan.gov>; Taylor, Kerri (DHHS) <TaylorK10@michigan.gov>; Thompson, Sheryl D. (DHHS) <ThompsonS2@michigan.gov>; Titus, Laura (DHHS) <TitusL@michigan.gov>; Travis, Rashmi (DHHS) <TravisR@michigan.gov>; Wells, Eden (DHHS) <WellsE3@michigan.gov>
Subject: Flint Briefing 4Dec15

Sending on behalf of the PHCSA:

Attached is the MDHHS daily situation report for the Flint water lead project.

Thanks,

Janese Bouters
Executive Secretary to Corinne Miller
Bureau of Disease Control, Prevention and Epidemiology
Michigan Department of Health & Human Services
201 Townsend Street
Lansing, Michigan 48913
Phone: (517) 335-8731
Fax: (517) 335-8263



Flint Water Lead Project

Michigan Department of Health and Human Services
Situation Report for December 4, 2015

NOTE: Contains potentially identifiable information- REDACT AS INDICATED
New items for the day listed first and in bold print.

Daily Briefing and Situation Report prepared by Linda Dykema

Surveillance Indicators: People Tested since 10/1/2015: 1,361;
Children less than 6 years old ≥ 5 µg/dl since 10/1/2015: 15
Children 6 to 17 years old ≥ 5 µg/dl since 10/1/2015: 6
Adults 18 years and older ≥ 5 µg/dl since 10/1/2015: 9
Severity Indicators: Hospitalized/Discharged-1/1; Deaths- 0

DAILY ACTIVITY SUMMARY

Elevated Blood Level (EBL) Environmental Investigations – ETC Contractors, Wes Priem, Courtney Wisinski

- **EBL investigation for high EBLL home completed on Friday 12/4/15.**
- 3 EBL investigations completed.
- 8 investigations scheduled.

MDHHS/Genesee County Health Department (GCHD) Case Management (CM) Services – Nancy Peeler

- **Child with EBLL of 52 µg/dl: blood level has decreased to 28 µg/dl per confirmed lab report.**
- CM report through 11/25/15:
  - # of contacts attempted: 136
  - # offered CM: 46
  - # CM started: 5
  - # of children receiving CM who live in Flint: 5
  - # billed to Medicaid: 5
  - # Other disposition: 2 (2 children moved to Oakland County)

Epidemiology/Surveillance – Patti McKane, Martha Stanbury, Bob Scott, Jessica Cooper, Karen Lishinski

- **EPA, CDC, MDHHS, local health department call scheduled for later this week to discuss Legionellosis.**

Filter Distribution Sheryl Thompson

- November Distribution
  - 778 Filters
  - 63 Pitchers
  - 924 Replacement Filters
- Total Distribution since October 1, 2015
  - 10,951 Filters
  - 184 Pitchers
  - 924 Replacement Filters

Communications/Information Sharing – Linda Dykema, Eden Wells

- **EPA drinking water experts will present to Technical Advisory Committee meeting on December 9th. Topics will include water treatment/corrosion, the status of Flint's water and next steps.**

Health Education Resources Updates - Michelle Bruneau, Emily Houk

- **Finalized Phosphates fact sheet with GCHD; sent final version to MDHHS Communication office to be finalized and posted on the website.**
- **Bath time poster finalized and forwarded to HHS Communications/PIO for review and approval.**
- **Per Emily Houk, mailed 1000 Keep Your Child Lead-Safe booklets (English), 500 Keep Your Child Lead-Safe booklets (Spanish), and 4 boxes of Fight Lead Poisoning with a Healthy Diet to GCHD.**
- **Finalized time/date of technical meeting with GCHD to discuss phosphate dosing and health (Wednesday, 12/9; 9:30-11a).**
- Pending: Aerator/Filter Maintenance Fact Sheet; Flint Parent Letter re-do in partnership with Emily Houk.

Toxicology - Kory Groetsch, Jennifer Gray, Junaid Maqsood, Veronica Tijerina

- **Collaborating with Surveillance, CM, and EBL response staff to develop a Data Dictionary and Database to track services provided to EBL children/families.**
- Working with GCHD and DEQ to address questions concerning impact of phosphate treatment on drinking water filters.
- Working with Healthy Homes Section staff to revise EBL report for Flint Residents.

WIC

- Letter sent 11/24 to GCHD about Ready-to-feed formula availability from WIC program
- Talking points for WIC staff and for providers shared

Healthcare/Providers

- **Drafted HAN to Flint healthcare providers for review by the project communications team and GCHD. The HAN encourages enhanced BLL testing for children less than six, particularly outside of the 1 and 2 years of age that are required by Medicaid.**
- Moran, Wells and Miller met with Medicaid health plan staff 2 to discuss increased promotion by health plans of EBL testing of Flint children < 6 years of age. Status update on Flint provided. Medicaid put this issue on its agenda for discussion at its December 3 meeting with Medicaid health plan CEOs and suggested inviting Dr. Wells to speak to Medicaid health plan medical directors.
- Medicaid identified three individuals to partner with epidemiology staff to develop methodology to measure/report progress on the percentage of Flint children enrolled in Medicaid who receive EBL testing.

DEQ Information - Linda Dykema as Liaison

- No updates for 12/4/2015.

From: Marc Edwards <edwardsm@vt.edu>
Sent: Tuesday, October 13, 2015 8:30 PM
To: Wyant, Dan (DEQ)
Subject: FW: Listen to MDEQ Director Wyant respond to all our accusations on corrosion control and MDEQ's responses

Dan,

Given your call this morning and your apology, I am sorry about this tweet. I asked that it be taken down. I did not communicate with the team about our call earlier, and they are still obviously upset from our work being attacked. This group probably put an average of 250 volunteer hours each member, so I hope you can understand where they/we are coming from, and we also spent $60K of our own money beyond the NSF grant.

I disagree with you about people not getting fired. Some of what happens goes beyond incompetence, and shows a complete disregard for the public we are sworn to protect. The first canon of civil engineering, is that the public welfare comes before everything else. When I heard about the attitude of your three employee's at that meeting on August 4th, I was outraged. I will still speak out to see them fired for their betrayal of the public, and I hope you can understand why. Their arrogance was completely unacceptable and should not be tolerated in a state public health employee.

That said, in recognition of your kind phone call today, I will tell my team that we need not defend ourselves further. It is a relief there is an adult at MDEQ afterall.

Best Regards,

Marc

From: Siddhartha Roy [mailto:sidroy@vt.edu]
Sent: Tuesday, October 13, 2015 7:58 PM
To: Marc Edwards
Subject: Re: Listen to MDEQ Director Wyant respond to all our accusations on corrosion control and MDEQ's responses

Should I take this tweet down then?



On Tue, Oct 13, 2015 at 7:54 PM, Marc Edwards <edwardsm@vt.edu> wrote:

He called today and apologized to me, then he apologized on the radio too.

Marc

From: Siddhartha Roy [mailto:sidroy@vt.edu]
Sent: Tuesday, October 13, 2015 7:53 PM
To: Anurag Mantha; William Rhoads; Emily Garner; Min Tang; Christina Devine; Pan Ji; Margaret Carolan; Colin Richards; Kimberly Hughes; Kelsey Pieper; Fei Wang; David Schwake (otto; Alison Vick; Rebekah Hupp; Caitlin Wilkinson; Jeffrey Parks; Ni Zhu; Dongjuan Dai; Marc Edwards
Subject: Listen to MDEQ Director Wyant respond to all our accusations on corrosion control and MDEQ's responses

http://michiganradio.org/post/mdeq-director-flint-water-crisis-has-shaken-faith-government

"What is at issue is experience, rather than wrongdoing," Wyant said.

"Those protocols were followed," Wyant said. "What's at issue is whether those protocols are appropriate."

"And so if there was any disrespect or discredit for that I have to apologize and I have to take responsibility for that and so I am addressing it," Wyant said. "Clearly this is a real issue."

"I think trust is going to be a significant issue for us. The only way we build back trust is demonstrating that the water's safe."

http://wkar.org/post/deq-chief-wyant-wrongdoing-staff-not-issue-flint-water-crisis

Flint Water Study @flintwaterstudy · 2m

Of course not. MDEQ's deceptions and cover-up deserve a gold medal!

> **Stateside Radio** @StatesideRadio
>
> Michigan's top environmental regulator says no one should lose their job over #FlintWaterCrisis michrad.io/1NFeNuQ

From: Wurfel, Brad (DEQ)
Sent: Friday, October 16, 2015 3:17 PM
To: Wyant, Dan (DEQ)
Subject: FW: LeeAnn Walters Draft

So you have this for Marc Edwards, this is the confirmation that Leann Walters stuff went to Dennis, and Harvey and others.

From: Wurfel, Brad (DEQ)
Sent: Monday, August 24, 2015 1:27 PM
To: Hollins, Harvey (GOV); Muchmore, Dennis (GOV)
Cc: Murray, David (GOV); 'Wurfel, Sara (GOV) (Wurfels@michigan.gov)'; Brown, Jessica (GOV)
Subject: FW: LeeAnn Walters Draft

Just a heads up, our Drinking Water Staff closing the loop with one of the participants from the meeting with the Flint Ministers regarding water quality issues in Flint. Some very worthwhile information here, and a heads up to everyone that this letter will be going to this individual.
Let me know if you have further questions, concerns, or other issues. Thanks!
b

From: Shekter Smith, Liane (DEQ)
Sent: Monday, August 24, 2015 10:37 AM
To: Wurfel, Brad (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ)
Subject: RE: LeeAnn Walters Draft

Brad – below is our draft response to Ms. Walters in followup to our meeting at the Governor's Office. Thought you might like to review the draft before we send it out. Also, is there anyone else that should see this before it is sent?

Dear Ms. Walters,

I wanted to update you regarding our Department's findings related to questions raised during our meeting at the Governor's office on August 4. I apologize for the delay in getting back to you.

Lead and Copper Monitoring

Regarding Flint lead and copper compliance monitoring for the January – June 2015 period, the City has confirmed that all lead and copper samples collected throughout the City, whether routine sites or customer requests, were sent to the State of Michigan lab for analysis. Individual sample results are provided to the property owner within 30 days of receiving the lab results in accordance with the Michigan Safe Drinking Water Act (Public Act 399, 1976 Administrative Rule 410(5). Results from the State of Michigan lab are provided directly to our Office.

Staff have confirmed that the lead 90th percentile compliance calculation of 11 parts per billion is based on 69 samples that met the appropriate sampling location site criteria, and met the sample collection site and collection protocol requirements of the Safe Drinking Water Act for this monitoring period. A minimum of 60 samples were required for this monitoring period. As indicated during the meeting, the City's sampling for lead complies with the Action Level standard of 15 parts per billion, but based on the population served by the City and these results, the City will need to

make a recommendation to the MDEQ on how they will fully optimize their corrosion control treatment. These next steps continue to follow the requirements of the Lead and Copper Rule.

Samples collected at your residence of 212 Browning Avenue were not included this compliance determination as you utilize a whole home filter. As stated in the Michigan Safe Drinking Water Act (Public Act 399, 1976 Administrative Rule 710a, Lead and Copper in tap water; monitoring requirements) "Sampling sites may not include faucets that have point of use or point of entry treatment devices designed to remove inorganic contaminants." Such treatment alters the water chemistry and water quality such that it is no longer representative of public water from the City's distribution system. Therefore, the City cannot use samples collected at your residence as part of its determination for public water system compliance with the lead or copper action level standard.

Sample Summary (samples taken at your residence)

For your information, we are providing the information that we've gathered regarding samples collected at your home. Our records indicate between February and June of this year there were six samples collected by either you or Mr. Mike Glasgow with the City of Flint, and submitted to the State Laboratory for analysis as follows:

February 11, Bathroom tap, collected at 10:20 AM by Mike Glasgow. This sample was analyzed for aesthetic metals (copper, iron, manganese, and zinc) which does not include lead analysis.

February 18, Kitchen tap, collected at 7:15 AM by you. This sample was analyzed for lead (104 parts per billion) and copper (non-detect).

February 25, Kitchen tap, collected at 10:26 AM by Mike Glasgow. This sample was analyzed for metals including lead. All results (including lead) were non-detect except for Barium 0.01 parts per million. The result for Barium was well below its maximum contaminant level of 2 parts per million.

March 3, Kitchen tap, collected at 6:00 AM by you. This sample was analyzed for lead (397 parts per billion) and copper (non-detect).

March 18, Kitchen tap, collected at 11:10 AM by Mike Glasgow. This sample was analyzed for lead (4 parts per billion) and copper (non-detect).

April 2, Pre-point of service, collected at 8:00 AM by you. This sample was analyzed for lead (707 parts per billion) and copper (110 parts per billion).

Lead Education/Outreach

As we discussed during the meeting, we support efforts to educate homeowners about the sources of lead in their private residence, provide guidance measures to reduce the potential for lead exposure, and provide information on resources for lead abatement. Along those lines, our Office has been in contact with the Department of Health and Human Services, Environmental Health Division, Healthy Homes Section and had some preliminary discussions about a public education and assistance campaign regarding household lead issues, guidance and abatement.

Lead monitoring by public water systems serves a dual purpose. The first purpose is to ensure the public water supply is adequately treating its water to address corrosion potential and help limit lead exposure. The second purpose is to inform homeowners about lead levels within their individual residence so that they can make educated choices regarding their own exposure risk.

pH Results

During the meeting concerns were also expressed regarding pH levels within customer plumbing systems. As you may know, pH has no associated contaminant level as it is simply a numeric scale used to specify the acidity or alkalinity of a solution. The City of Flint conducts daily monitoring of pH values on both its raw and finished (treated) water at the City's water treatment plant as part of its operations. The City is also required to conduct water quality parameter monitoring in the distribution system, which includes pH. Samples are analyzed in accordance with Standard Methods using properly calibrated analytical equipment. Results for pH from these samples are summarized below.

Since late April 2014 – June 2015, the following pH conditions were reported:

Water Treatment Plant – Finished Water plant tap pH range = 7.07 minimum to 9.9 maximum, overall average 7.7, measured daily. We believe the 9.9 is a one- time anomaly from softening treatment.

Distribution System – Water Quality Parameters taken from 25 sample sites located throughout and monitored quarterly
July – Sept. 2014: pH 7.71 average, range 7.56 – 7.86
Oct. – Dec. 2014: pH 7.88 average, range 7.62 – 8.10
Jan. – March 2015: pH 7.81 average, range 7.60 – 7.99
April – June 2015: pH 7.63 Average, range 7.48 – 7.80

In addition, the City's treated water contains alkalinity, which is a measurement of the buffering capacity of water to resist a change in pH. As you can see from the water quality parameter monitoring results above there has been very little change in pH within the City's distribution system. The pH levels described within customer site piping or premise plumbing systems are believed to be the result of onsite treatment and not representative of water quality shown to be occuring in the public water supply system.

Consumer Confidence Report

Finally, there was confusion during the meeting regarding the City's annual water quality report, the Consumer Confidence Report which we have since been able to clarify.

The City of Flint issued two separate Consumer Confidence Reports (CCR's) in 2015 covering the water quality data from 2014. One report was for the period of January – April 2014 when the City was obtaining water from Detroit (DWSD). And a second report was for the period April – December 2014 when the City was using the Flint River and its own Water Treatment Plant.

The CCR for DWSD water was mailed to customers in June. The Flint River based CCR was mailed to customers in mid-July, delayed due to issues with the printing contractor. We agree that having two separate reports caused confusion. We are working with the City to ensure both reports are posted to the City's website and both are made available when requested by customers. Should the City choose to create separate CCR's during the year that the City of Flint connects to the Karegnondi Water Authority we will work with the City to provide more clarity and try to have all material included in a single mailing.

The DWSD based CCR is the one community members had at the meeting, while the DEQ brought a copy of the Flint River based CCR. As separate and distinct sampling was done under each source, this explains the discrepancy in the values and monitoring periods being reported in the respective CCR's.

We appreciate your interest in these matters and hope this has addressed many of the questions brought up during our meeting. I would like to provide this information to both Dr. Sullivan and Ms. Mayes, but I do not have their contact information. I'm hoping you can share this with them and any others that may be interested.

Sincerely,

Subject: FW: RDS/GT/VB - KWA & DWSD (Water) Meeting
Location: Governor's SE MI Office

Start: Fri 4/19/2013 3:00 PM
End: Fri 4/19/2013 4:30 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: GovCalendar

-----Original Appointment-----
From: GovCalendar
Sent: Wednesday, April 17, 2013 5:37 PM
To: GovCalendar; Hichez, Amy (Treasury); Muchmore, Dennis (GOV); Wisniewski, Wendy (GOV); Rustem, William (GOV); Brader, Valerie (GOV); Tedder, Greg (GOV)
Cc: Clayton, Stacie (GOV); Thelen, Mary Beth (DEQ)
Subject: RDS/GT/VB - KWA & DWSD (Water) Meeting
When: Friday, April 19, 2013 3:00 PM-4:30 PM (GMT-05:00) Eastern Time (US & Canada).
Where: Governor's SE MI Office

PPI

Host: **PPI** SClayton to dial in as Host

Attendees:
RDS/GT in person, Val Brader by phone
Mr. Orr by phone
Harvey Hollins by phone or in person
Attending from DWSD: Jim Fausone, Sue McCormick (Director), Nikki Bateson (CFO)
Attending from Flint: Ed Kurtz and Flint Mayor Dayne Walling
Attending from Treasury: Andy Dillon, Amy Hichez
Attending from DEQ: Dan Wyant
George Karmo from Tucker Young Jackson Tull Inc

Subject:	Dan Wyant/Karen re: Check-in on Flint Water Quality
Location:	Karen to call Dan @ 517-284-6712
Start:	Wed 12/17/2014 10:15 AM
End:	Wed 12/17/2014 10:45 AM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	Hartwell, Helen

Subject: Congressman Kildee RE: City of Flint and Wetlands at 10:10
Location: Telephone at 10:10 See MBT for Call In Number

Start: Thu 4/23/2015 9:10 AM
End: Thu 4/23/2015 9:40 AM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Thelen, Mary Beth (DEQ)
Required Attendees: Wyant, Dan (DEQ); Datema, Maggie (DEQ)
Optional Attendees: Feuerstein, Heather (DEQ)

Confirmed for April 23, 10:10 using Kildee's Call In Number – See MBT or Folder for Call In Number.
==========

Tentatively scheduled for 10:10.

==========

Mr. Wyant,

Congressman Kildee would like to schedule a conference call with you to discuss the water issues in Flint and Michigan's Wetland Program.

I would like to see if you would have time for this discussion next Thursday, April 23, at 10:00AM.

Thank

Subject:	RDS - REMARKS (AHeaton) Press Conference Re: Flint Water
Location:	Mott Foundation Conference Center, 503 S. Saginaw, Flint
Start:	Thu 10/8/2015 10:00 AM
End:	Thu 10/8/2015 10:42 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	GovCalendar
Required Attendees:	Agen, Jarrod (GOV); Biehl, Laura (GOV); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Hollins, Harvey (GOV); Clayton, Stacie (GOV); Lyon, Nick (DHHS); Grijalva, Nancy (DHHS)
Optional Attendees:	Heaton, Anna (GOV); Wurfel, Sara (GOV)

Purpose: Press conference regarding Flint water

Program Participants:
Flint Mayor Dayne Walling
DEQ Director Dan Wyant
DHHS Director Nick Lyon
Dr. Eden Wells, DHHS
Ridgeway White, Mott Foundation
Harvey Hollins
Sen. Jim Ananich

Non-Speaking Invitees: (all attendance unconfirmed)
Rep. Tim Greimel
Rep. Phil Phelps
Rep. Sheldon Neely
Flint City Councilmembers
Faith Based Community members
U of M Flint Chancellor Susan Borrego (RDS talked to 10/7/15 at the Higher Ed Summit)
Amy Hovey, Staff of Congressman Dan Kildee
Jamie Gaskin, CEO of Genesee County United Way
Tim Herman, CEO of Flint and Genesee Chamber of Commerce
Brian Larkin, Flint and Genesee Chamber of Commerce (fmr. EO staff)
Kathryn Thomas, VP of Communications for Mott Foundation
Neal Hegarty, VP of Programs for Mott Foundation
Kimberly Roberson, Director of Flint Area Grantmaking Program for Mott Foundation

Agenda:
10:00 AM – 10:01 AM Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM Governor gives remarks
10:05 AM – 10:06 AM Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM Mayor Walling gives remarks

10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon brief comments, introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Senator Jim Ananich
10:21 AM – 10:26 AM	Senator Jim Ananich remarks
10:26 AM – 10:27 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:27 AM – 10:32 AM	Ridgway White gives remarks
10:32 AM – 10:42 AM	Q&A from the podium (SW to moderate)
10:42 AM	Event concludes; Governor departs

OPEN Press

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water
- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.
- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Attachments:

1. Briefing
2. FAQs for Media Q&As
3. Press Release


Briefing.pdf


FAQs for Media QAs.pdf


Press Release.pdf

Staff/Detail
Venue POC: Kathryn Thomas (mobile?) 609-439-1150
Security POC: Phil Snyder (mobile) 810-444-7050
Advance: CLU
Comms: All

Briefing: Flint Water System Press Conference
Thursday, Oct. 8, 2015
Mott Foundation/Commerce Center Building Ground Floor
519 S. Saginaw St., Flint
Communications: Sara Wurfel, 517-599-3470, wurfels@michigan.gov
Dave Murray, 517-449-8343, murrayd1@michigan.gov

Purpose:

We're announcing the decision to reconnect Flint to the Detroit Water and Sewerage Department, a collaborative effort between the state government, Flint city government and the Mott Foundation.

High level points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water.

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

Agenda:

9:00 AM - 9:45 AM	Gov meets with Mayor Walling in [Room 1]
9:45 AM – 10:00 AM	Pre-Brief in [Room 2]
10:00 AM – 10:01 AM	Harvey Hollins kicks off press conference; introduces Governor
10:01 AM – 10:05 AM	Governor gives remarks
10:05 AM – 10:06 AM	Harvey Hollins introduces Mayor Dayne Walling
10:06 AM – 10:10 AM	Mayor Walling gives remarks
10:10 AM – 10:11 AM	Harvey Hollins introduces DEQ Director Dan Wyant
10:11 AM – 10:15 AM	Director Wyant gives remarks
10:15 AM – 10:16 AM	Harvey Hollins introduces DHHS Director Nick Lyon
10:16 AM – 10:17 AM	Director Nick Lyon introduces Dr. Eden Wells
10:17 AM – 10:20 AM	Dr. Eden Wells remarks
10:20 AM – 10:21 AM	Harvey Hollins introduces Ridgway White of Mott Foundation
10:21 AM – 10:25 AM	Ridgway White gives remarks
10:25 AM – 10:35 AM	Q&A from the podium
10:35 AM	Event concludes; Governor departs

Attendees: Roughly 20 in audience

Susan	Borrego	Chancellor, U of M Flint
Oscar	Overton	Pastor
Alfred	Harris	Pastor

Latrelle	Holmes	Pastor
Jim	Ananich	Michigan Senate
Sheldon	Neely	Michigan House
Phil	Phelps	Michigan House
Jeff	Wright	Drain Commissioner, Genesee County
Amy	Hovey	Dan Kildee office
Jamie	Gaskin	Dan Kildee office
Tim	Herman	Flint Chamber of Commerce
Brian	Larkin	Flint Chamber of Commerce
Eric	Mays	Flint City Council
Jacqueline	Poplar	Flint City Council
Kerry	Nelson	Flint City Council
Joshua	Freeman	Flint City Council
Wantwaz	Davis	Flint City Council
Herbert	Winfrey	Flint City Council
Monica	Galloway	Flint City Council
Vicki	VanBuren	Flint City Council
Scott	Kincaid	Flint City Council

Speaker comments:

RDS – Collaboration led to solution, outline of solution
Mayor Walling – Importance of solution to Flint
Dan Wyant – School testing results, overview of steps on transition from Flint River to DWSD
Nick Lyon – DHHS involvement
Dr. Eden Wells – Testing of water going forward, use of filters approved by NSF
Ridgway White – Importance of collaboration/commitment to Flint

Talking points:

- Protecting the health and safety of our residents in Flint and across Michigan is always our top priority.
    - All Michigan residents need access to safe, clean water

- That's why today, in consultation with health and water experts in our state agencies, I'm advocating reconnecting the Flint drinking water with the Great Lakes Water Authority.

- I'm recommending to my partners in the Legislature that the state government provide $6 million of the needed $12 million to reconnect with authority.
    - The Flint city government has agreed to cover $2 million of this cost, and the Charles Stewart Mott Foundation is generously offered to donate $4 million.
    - The Michigan Department of Health and Human Services and the Department of Environmental Quality today also is committing an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

- What you are seeing here today is a community coming together to work toward solving a problem.
    - I appreciate the assistance of Mayor Walling, and the U.S. Environmental Protection Agency.
    - This is a collaborative approach, and I appreciate that community organizations including the United Way and come forward to assist.

- Today's announcement in an important step as we move forward together.
    - But it is not our first step, nor will it be our last.

        - This announcement builds on work we've already set in place.
            - That includes $4.2 million in state grants and loan restructuring to help identify and fix infrastructure problems.
            - State agencies have been working closely with Flint leaders and the community for more than a year.

- There will be more to do.
    - Flint has an aging water infrastructure system with challenges that we – together – will continue to address.

- We will continue to test Flint schools for lead levels in drinking water.
    - Schools across the state might also have questions.
    - The Department of Environmental Quality will work with districts across the state to provide testing.
        - Districts can send water samples and paperwork and the nominal charge. (It costs $26 per sample).

- The steps outlined in the comprehensive action plan are still in effect.

FAQs for Media Q&As

Switch to Great Lakes Water Authority

What finally pushed the state to this decision?

This was the City's request, and the Governor supports it, based on several key factors:
In the near term, DWSD water will be easier to manage. It comes from a more stable source than the river, it is fully optimized for corrosion control, and it is clear that residents of Flint have more confidence in this water source.

Will this solve Flint's water crisis?

In combination with the other short term, intermediate term and long-term steps outlined last week, this move represents a big step forward. Flint still has serious system maintenance challenges it must address.

If you're saying residents will still have lead because of their plumbing, does that mean every other city in this state has a lead problem?

Many areas of the state have lead in their infrastructure mix.

Where's the state getting the money to fund this?

We have submitted a formal request to lawmakers via the appropriations process.

Where's the city getting the money to fund this?

The city is contributing all it can, and is getting assistance for its match from the Mott Foundation.

How long will the switch take?

The switch will be completed by the City and Great lakes Water Authority, but our understanding is that it can be accomplished in the very near term once the arrangements are complete.

How long will it take before Detroit's corrosion controls provide protection for Flint?

It will take some time for the corrosion control additives to build on pipe walls throughout the system. Estimates vary. The state can assure we will commence monitoring of the system early 2016 and report results as we get them to keep the community updated.

Why do residents still need to use filters and bottled water?

The filters and bottled water are responsible precautions for any resident concerned about lead exposure.

Do the filters actually work? We've been hearing they don't protect for lead.

Yes, the filters work. They are all certified for lead removal by the National Sanitation Foundation.

The filters are only good for 100 gallons. What happens when they are used up?

They will need to be replaced. And residents can get a new filter.

What about restaurants?

What's going to be done about lead service lines?

Long term, this is the only permanent solution to lead exposure. The state has committed to helping the city accomplish this goal long term.

Do you wish you'd made this switch sooner?
We support the City's decision. We can't look backward. We feel the state has responded quickly and effectively as information has surfaced, been investigated and verified. While the City of Flint is, right now, in compliance with the federal Lead and
Copper Rule, we recognize there is a disparity between surveillance testing and other testing happening in the community that we need to better understand and we are working on developing our knowledge.

Schools testing

What do these results say?
The results say we need to further investigate Flint schools and help the schools find clearer causes for some the results we got.

Any theories about what's going on?
It is possible there are specific points in the plumbing that have lead components which need to be replaced, but we can't say anything definitively until we perform an investigation at each school.

Do the schools have lead service lines? If not, why are they getting such high results?
The schools we tested initially do not have lead service lines. There are a few possible reasons why lead is being detected at specific points in the buildings and not others. When we know things definitively, we will make the information public.

How long do the schools have to stay on bottled water? Just until the switch to Detroit, or longer term?
We are encouraging the schools to continue their current protective measures as a precaution until we can get into the buildings and get more answers.

Why did you only test 13 schools?
That was what the Flint Public Schools requested.

What happens to other schools?
We will test all the schools in Flint if they request it.

What about the schools that can't afford to update their entire plumbing systems?
This is why we are having plumbing assessments completed. There is no way to know yet what each building will require.

How confident are you in your testing? You've got results all over the map.
We are confident that our testing meets the requirements for the federal Lead and Copper Rule, which is surveillance monitoring. The bigger question is whether surveillance monitoring meets the public health protection standards that Lead Exposure Testing methods do. The EPA is working on that question now, and we are engaged in that dialogue.

What do you mean by "health exposure testing"? What are you doing next?

The 90th percentile of your results is still below 15 ppb. Does that make you more or less confident in your testing and in your protocols?

It makes us confident that the testing protocol delivers consistent results. But again, it does raise questions about whether this testing method shows what people think it does or what they really want to know, which is actual lead exposure from lead plumbing in a home.

Any idea how long kids have been exposed to lead? Was it before the move to the Flint River?
That is possible. We don't know.

How does the state bring this new information into the broader picture of kids' lead exposure across the state?

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

CONTACTS:	FOR IMMEDIATE RELEASE
Sara Wurfel or Dave Murray Governor's Office: 517-335-6397 Brad Wurfel, 517-284-6713 Department of Environmental Quality Jennifer Eisner, 517-230-9804 Department of Health and Human Services	Thursday, Oct. 8, 2015

Gov. Rick Snyder: Move back to Detroit water provides best protection for public health in Flint

State, Mott Foundation and city form partnership to fund switch

FLINT, Mich. – Flint families and children will be better protected by reconnecting with the Great Lakes Water Authority as the source of the city's drinking water, Gov. Rick Snyder said.

Snyder said Thursday that he will request the state Legislature to provide half, or $6 million, of the $12 million needed to reconnect with the authority. The Flint city government will provide $2 million and the Charles Stewart Mott Foundation will donate $4 million.

"All Flint residents need clean, safe drinking water," Snyder said. "The technical experts helping the city on its water advisory all agree this move back to the Great Lakes Water Authority provides the best public health protection for children and families. This effort today is the result of people coming together to solve a problem. I appreciate Detroit's willingness to reconnect with Flint, the Mott Foundation's generous donation, and the dedication of all parties to come together to protect Flint families and children."

The Michigan Departments of Environmental Quality and Health and Human Services today also committed an additional $3.5 million for water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

Flint city leaders requested the state's help to fund the reconnection after a Wednesday meeting of Flint's Technical Advisory Committee. Flint's move to the Great Lakes Water Authority is expected to cost about $1.3 million per month until the Karegnondi Water Authority is completed next summer.

INSERT MAYOR QUOTE HERE

The move to Detroit water, which is drawn from Lake Huron, carries many public health benefits. As large bodies of water, the Great Lakes are naturally prone to fewer problems from large rain events and other runoff issues that can be present in shallower rivers. Additionally, the Great Lakes Water Authority has already fully optimized its corrosion control, using phosphates to help coat the insides of pipes and prevent lead from leaching into the water.

However, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control. Additionally, some households in the city could experience lead in their drinking water until all lead pipes and plumbing are replaced.

INSERT MOTT FOUNDATION QUOTE HERE

To best protect public health, Snyder said state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure.

Free filters are available for current MDHHS clients at the 125 E. Union St. or 4809 Clio Road MDHHS office locations. For residents who are not currently enrolled in MDHHS assistance programs, free filters are available at the Genesee County Community Action Resource Department offices at 2727 Lippincott and 601 North Saginaw in Flint. Staff will be at all four locations from 9 a.m. to 4 p.m., Monday through Friday, to distribute filters and assist residents who have questions about proper installation. At the Lippincott location only, extended hours will be offered this weekend, including until 7 p.m. on Thursday and Friday and from 10 a.m. to 2 p.m. on Saturday.

Other good practices for residents concerned about lead include turning on the cold water tap and running the water until it's as cold as it will go. Additionally, only use cold water for cooking, drinking and especially mixing baby formula.

School test results released; more investigation planned

The state today also released the first results from its lead screening program in schools and homes. Of 37 total samples taken at 13 buildings, four samples spread over three buildings exceeded the federal action level of 15 parts per billion.

However, this sampling provides only an initial screen, and the state is committing to further testing water and inspecting plumbing at these schools. Until testing is complete, schools are advised to continue using bottled water and filtration as a precaution to protect children.

In addition, free testing is still available for any other Flint school, including daycares and Head Starts. Free testing is also available for any Flint resident.

Additional information, including more detailed lead screening results, is available at www.michigan.gov/flintwater.

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Subject:	Rep Pscholka re: Flint Water
Location:	351 CB
Start:	Tue 10/13/2015 9:30 AM
End:	Tue 10/13/2015 10:00 AM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	Pallone, Maggie (DEQ)
Required Attendees:	Thelen, Mary Beth (DEQ); Wyant, Dan (DEQ)

Christine

Subject: DM/EC/JA/RB/JW/JR/HH/SW/DM/DW/NL/GL/DP or DA or ML re Flint next steps
Location: Governor's Conference Room - 2nd Floor Romney (call in number below)

Start: Wed 10/14/2015 11:30 AM
End: Wed 10/14/2015 12:00 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Agen, Jarrod (GOV)
Required Attendees: Muchmore, Dennis (GOV); Clement, Elizabeth (GOV); Baird, Richard (GOV); Walsh, John (GOV); Redford, James (GOV); Hollins, Harvey (GOV); Wurfel, Sara (GOV); Murray, David (GOV); Wyant, Dan (DEQ); Lyon, Nick (DHHS); Lasher, Geralyn (DHHS); Posthumus, Dick (GOV); Ackerman, Darin (GOV); Lange, Michelle (GOV); Rospond, Laurie (GOV); Thomet, Ruth (GOV); Thelen, Mary Beth (DEQ); Grijalva, Nancy (DHHS); Hall, Jean (GOV); VanSickle, Michele (GOV); Clayton, Stacie (GOV)
Optional Attendees: Wells, Eden (DHHS)



MDHHS Action Plan Flint EBL.DO...

Conference Number PPI
Access Code – PPI
Host Code - PPI (Jarrod to host)

Michigan Department of Community Health (MDHHS) Flint Water Action Plan

Action	Local Lead	MDHHS Lead	Tasks
Filter/Water Distribution	Tamara Brickley (Genesee County Health Department-GCHD)	Sheryl Thompson, MDHHS	- Coordination of distribution (GCHD) - Identify at-risk sub-groups (GCHD) - Tracking filters- uniform registry held by GCHD - Ordering filter replacements (MDHHS)
Blood Testing	Tony LaRocco (GCHD) Possible partners: - Hurley - Great Flint Health Coalition - MIHP - LHD - Schools	Dr. Eden Wells/ Nancy Peeler (CLPPP)	- Test all ○ Students 0-16 ○ Priorities: ▪ 3 schools ▪ 2 zip codes ▪ ages 0-15 - Convene meeting with GCHD and all potential partners (MDHHS) ○ Partner with schools- information about testing sites options distributed through school districts to parents ○ Partner with Great Flint Health Coalition-network to develop testing sites and information about testing to healthcare providers ○ Partner with Hurley/McClaren/Genesys ○ Partner with MIHP/Home Visiting Program - Confirm that the state lab has capacity to handle increase in tests- CONFRIMED
Case Management Follow Up	Tony LaRocco (GCHD)	Eden Wells/ Nancy Peeler (CLPPP)	- Identification of all current positives- confirmatory testing for > 5 mcg/dl (as of April 2014) - Maintain registry of all tests performed (-/+) - Follow-up all cases >5 mcg/dl with the CLPP Case Management protocol
Elevated Blood Level Investigations(all > 5 mcg/dl)	Dawn Hallwood (GCHD)	Linda Dykema	- Secure financial resources necessary to support environmental health response - Follow-up CLPPP to see if immediate funds available - Recommendation to contract with Lead Investigation company thru SEMHA-

			licensed investigators
Communications	Hilda McShane (GCHD)	Geralyn Lasher	- Daily MDHHS and GCHD phone calls (3PM) - Provide provider education- links sent for Governor's site to GCHD 10/12 - Provide public education - Provide risk education - Provide links with lead prevention information to Flint

Subject:	RDS/DM/JA/EC/DW/NL/HH/MAnderson - Flint After Action Meeting
Location:	Governor's Office, Romney
Start:	Wed 10/21/2015 9:00 AM
End:	Wed 10/21/2015 10:00 AM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	GovCalendar
Required Attendees:	VanSickle, Michele (GOV); Baird, Richard (GOV); Wisniewski, Wendy (GOV); Clement, Elizabeth (GOV); Muchmore, Dennis (GOV); Agen, Jarrod (GOV); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Lyon, Nick (DHHS); Grijalva, Nancy (DHHS); Clayton, Stacie (GOV); Hollins, Harvey (GOV); Anderson, Madhu (DEQ)

Ken Sikkema, Chris Kolb, Eric Rothstein, Dr. Matt Davis, Dr. Lawrence Reynolds (by phone)

PPI

Host: **PPI** – RH to host

Agenda:

1) Introductions
2) Mission of Task Force
3) Background Info
4) Discussion of Timeline
5) Q & A from Task Force Members
6) Communications Strategy/Review Press Release

Attachments:

1. JA Memo
2. Resumes
3. Press Release



*****Staff*****

Chris Kolb chris@environmentalcouncil.org
Eric Rothstein erothste@grg-ltd.com
Ken Sikkema ksikkema@pscinc.com
Matt Davis mattdav@med.umich.edu

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

Contacts: Sara Wurfel or Dave Murray 517-335-6397	**FOR IMMEDIATE RELEASE** Wednesday, Oct. 21, 2015

Gov. Rick Snyder announces formation of Flint Water After Action Report Commission

Experts will provide ongoing monitoring of city water system

LANSING, Mich. – Gov. Rick Snyder today announced a new task force to review the state's actions regarding water usage and testing in Flint. The commission will conduct a thorough review and lay out recommendations on future guidelines for water testing. It will also monitor the transition of Flint's city water system back to the Great Lakes Water Authority, and its eventual transition to the Karegnondi Water Authority pipeline.

The commission will be co-chaired by Ken Sikkema of Public Sector Consultants and Chris Kolb, of the Michigan Environmental Council. Also serving will be Dr. Matthew Davis of the University of Michigan Health System, and Eric Rothstein, of the Galardi Rothstein Group.

"As stated previously, transitioning back to the Great Lakes Water Authority is a good first step to protecting public health in Flint, but it's not the last step," Snyder said. "Bringing in outside experts to evaluate our actions and help monitor and advise on technical issues will be key to continuing work on the comprehensive action plan and ensuring safe drinking water for all the citizens of Flint."

Ken Sikkema is a senior policy fellow at Public Sector Consultants, where he specializes in public finance, environment, and energy policy. Prior to joining the firm, Sikkema served in both the Michigan House and Senate, culminating with four years as Senate Majority Leader. He has also served as both an adjunct and visiting professor at Grand Valley State University.

Chris Kolb is president of the Michigan Environmental Council, a statewide coalition of 70 environmental, public health and faith-based nonprofit groups. Before joining the MEC, Kolb represented Ann Arbor in the state House for six years and served eight years on the Ann Arbor City Council. He has been president of the MEC for eight years.

Matthew Davis, M.D., M.A.P.P., is Professor of Pediatrics and Internal Medicine at the University of Michigan Health System and Professor of Public Policy at the Gerald R. Ford School at the University of Michigan, having joined the faculty in 2000. He is the founding Director of the C.S. Mott Children's Hospital National Poll on Children's Health and the National Voices Project. Dr. Davis also previously served as the Chief Medical Executive of the Michigan Department of Community Health/Department of Health and Human Services.

Eric Rothstein is a national water issues consultant and principal at the Galardi Rothstein Group. He served as an independent advisor on the creation of the Great Lakes Water Authority. Rothstein also has served as Jefferson County, Alabama's rate consultant and municipal advisor for litigation related to the county's bankruptcy and issuance of $1.7 billion in sewer warrants and led strategic financial planning for the City of Atlanta's Department of Watershed Management. He has more than 30 years of experience in water, wastewater and stormwater utility finance and rate-making assessments.

As Gov. Snyder previously stated, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control.

To best protect public health, state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure. The Michigan Departments of Environmental Quality is continuing to provide free water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

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Chris Kolb

803 Edgewood Place
Ann Arbor, MI 48103
(734) 663-6236

EDUCATION:

The University of Michigan, Ann Arbor, Michigan
Bachelor of Science in Natural Resources, GPA 3.55
Dean's List, Honors Society

Emory University, Atlanta, Georgia
Graduate studies in Political Science focusing on Quantitative Analysis, and Interest Group Politics; Scholarship, Grant, and Fellowship Recipient. Accepted into advanced studies for PhD.

EXPERIENCE:

Executive Director, Current
Unity Michigan, Ann Arbor, Michigan

Responsible for the organization and implementation of the new statewide campaign to create a progressive Michigan by advancing lesbian, gay, bisexual, and transgender (LGBT) and social justice values and issues. Coordinate and implement the collaborative efforts of five leading LGBT and equality organizations; ACLU of Michigan, Affirmations, Michigan Equality, SPICE, and Triangle Foundation. Lead the campaign's research and subsequent activities in Michigan. Successfully developed and implemented a primary election strategy in legislative races. Engage in successful communications with the LGBT community, the campaign's supporters and partners, and supportive national groups. Coordinate a broad, effective campaign with consultants, including coalition building, list building, voter contact and get-out-the-vote activities. Represent the organization at meetings and events with the public and press.

Vice President for Public Affairs, 2007-2008
Early Childhood Investment Corporation, Lansing Michigan

Directed all public affairs activities in a statewide effort to improve the status of Michigan's children, aged zero to five. Developed and implemented public policy at the federal, state and local levels working with key decision-makers, staff and public. Educated and informed elected officials on the importance of investing in early childhood. Secured increased funding over $11 million, including $5.75 million for ECIC. Helped to develop Governor's $30 million early childhood initiative outlined in Fiscal 2009 budget. Successfully planned 2008 Star Power Rally at the Capitol for over 500 early childhood supporters. Coordinated activities of the Michigan Legislative Children's Caucus; worked directly with state departments involved in early childhood development including Community Health, Education, Human Services, and Labor and Economic Growth; provided speakers and testimony to legislative hearings to inform and educate Legislature; reviewed and monitored all legislation impacting early childhood development; provided training to local Great Start Collaboratives to work with their local, state, and federal decision-makers; coordinated development of an early childhood public policy agenda; and, worked to increase knowledge of Legislature and public on importance of early childhood development, advance public education, and increase public and private investment in Michigan's children.

State Representative, 2001-2006
53rd State House District, Lansing, Michigan

Three-term State Representative, appointed for two terms (2003-2006) to the House Appropriations Committee served as the Ranking Democrat on four appropriations

subcommittees: Economic Development, Department of Environmental Quality, Higher Education, and the Department of Human Services, and served on the Corrections subcommittee (2003-4). In second term, was appointed by Governor Granholm to serve on the Michigan Land Use Leadership Council to develop a report and recommendations for the Governor and Legislature on land use issues. Appointed Ranking Democrat on the House Committee on Land Use and Environment (2001-2002), and served on the House Commerce Committee (2001-2002). Authored numerous legislation enacted into law, including legislation creating joint planning commissions, Land Bank Fast Track authorities, open space ordinance requirement for local governments, lead poisoning prevention for children, regulation of polybrominated biphenyl ethers (PBDEs), renewal of the baseline environmental assessment fee, establishment of the refined petroleum product cleanup program to help clean up leaking underground storage tanks, welfare reform and a bill to help create the Fire Services Bureau. Legislative focus included land use and planning, the environment, natural resources, toxins, children's health, alternative energy, economic development, mental health, higher education, and civil rights.

Legislative Assistant, 1999-2000
52nd District, Lansing Michigan
Served as a Legislative Assistant to Representative John Hansen, provided policy research, constituent services, reviewed legislation and executive budget data, and attended meetings on behalf of the Representative in the District. Contacted constituents and interest groups, assisted with amendments and bill development.

Environmental Consultant
Ann Arbor, Michigan 1993-1999

Provided consulting services in the environmental management and compliance field to businesses in Michigan and Ohio. Consulting services specialized in solid waste management, waste reduction and recycling, environmental compliance and permitting, worker safety training, and project management including on-site facility management.

HONORS:

Legislator of the Year, Michigan Fire Chiefs, 2006
Presidents Award, Michigan Fire Inspectors Society, 2006
Co-Chair of the Fire Service Legislative Caucus
The 2005 Legislative Award from the Michigan Audubon Society
Liberty Bell Award, Washtenaw County Bar Association, 2004
Legislative Award from the National Alliance on Mental Illness, 2004
Environmental Stewardship Award, Sierra Club, Mackinac Chapter, 2004
Legislator of the Year, U of M Students of Choice and College Democrats, 2003
Freedom Award, St. Mary's Christian Fellowship, 2002
Legislative Award from the Michigan League of Conservation Voters, 2002
Henry Toll Fellowship Leadership Class of 2002, Council of State Governments (CSG)
Legislator of the Year, Association for Children's Mental Health, 2001
Bowhay Institute for Legislative Leadership, CSG – Midwest, 2001
Next Generation Leadership Class at East-West Center, University of Hawaii, 1996

COMMUNITY ACTIVITES:

Ann Arbor City Councilmember, 1993-2000, Mayor Pro-tem, 1994-2000.

HIV/AIDS Resource Center Board of Directors, Chair; Girl Scout Council of Huron Valley, Board of Directors; previously served as Co-Chair of the Affordable Housing Task Force, Washtenaw County Solid Waste Planning Commission, and Michigan Municipal League's Transportation and Environmental Committee; volunteered for organizations involving environment, youth, hunger, LGBT, housing, health care, veterans and religious organizations.

Matthew M. Davis, M.D., M.A.P.P.
Professor of Pediatrics and Communicable Diseases
Professor of Internal Medicine
Professor of Public Policy
Professor of Health Management and Policy
University of Michigan
300 NIB, 6A18
Ann Arbor, MI 48109-5456
(734) 232-0657
Email: mattdav@med.umich.edu

EDUCATION

HIGH SCHOOL	Eden Senior High School (1981-1985) Eden, New York	
UNDERGRADUATE	Swarthmore College (1985-1989) Swarthmore, Pennsylvania Major Field: Biology	BA with honors, 1989
PROFESSIONAL	Harvard Medical School (1990-1994) Boston, Massachusetts	MD *cum laude*, 1994
	Irving B. Harris School of Public Policy Studies (1999-2000) University of Chicago Chicago, Illinois	MAPP, 2000

POSTDOCTORAL TRAINING

Internship in Internal Medicine and Pediatrics — June 1994 - June 1995
Brigham & Women's Hospital and The Children's Hospital
Boston, Massachusetts

Residency in Internal Medicine and Pediatrics — June 1995 - June 1998
Harvard Combined Residency in Medicine and Pediatrics
Boston, Massachusetts

Acting Chief Residency in Primary Care/Internal Medicine — July 1997 - November 1997
Brigham and Women's Hospital
Boston, Massachusetts

Robert Wood Johnson Foundation Clinical Scholars Program — July 1998 - June 2000
University of Chicago
Chicago, Illinois

CERTIFICATION AND LICENSURE

State of Massachusetts full medical license #155272	1997 - 1998
State of Illinois full medical license #0036-098102	1998 - 2001
State of Michigan full medical license #J693073	2000 -
Drug Enforcement Administration Certificate #BD5935575	2000 -
Diplomate of the American Board of Pediatrics, #064080 - Recertified through 12/31/2017	1998 -
Diplomate of the American Board of Internal Medicine, #194261 - Recertified through 12/31/2021	1999 -

ACADEMIC APPOINTMENTS

Lecturer in Pediatrics and Communicable Diseases and Internal Medicine University of Michigan	July 2000 - February 2002
Core Faculty, Child Health Evaluation and Research (CHEAR) Unit Division of General Pediatrics, University of Michigan	July 2000 -
Core Faculty, Pediatric Health Services Research Fellowship Program, Division of General Pediatrics University of Michigan	July 2000 -
Affiliated Faculty, Robert Wood Johnson Clinical Scholars Program University of Michigan	July 2000 - June 2004
Assistant Professor in Pediatrics and Communicable Diseases and Internal Medicine University of Michigan	February 2002 - August 2006
Affiliated Faculty, National Poverty Center, Gerald R. Ford School of Public Policy University of Michigan	July 2003 -
Assistant Professor of Public Policy, Gerald R. Ford School of Public Policy University of Michigan	January 2004 - September 2006
Core Faculty, Robert Wood Johnson Clinical Scholars Program University of Michigan	July 2004 -
Associate Professor of Pediatrics and Communicable Diseases, Internal Medicine, and Public Policy University of Michigan	September 2006 - August 2013
Professor of Pediatrics and Communicable Diseases, Internal Medicine, and Public Policy University of Michigan	September 2013 -
Professor of Health Management and Policy School of Public Health, University of Michigan	January 2014 -

ACADEMIC ADMINISTRATIVE APPOINTMENTS

Co-Director, Pediatric Health Services Research Fellowship Program, Division of General Pediatrics, University of Michigan	July 2003 - June 2006
Co-Director, Resident Elective in Pediatric Health Services Research for Under-represented Minorities, Division of General Pediatrics, University of Michigan	July 2003 - June 2005
Director, Resident Elective in Pediatric Health Services Research for Under-represented Minorities, Division of General Pediatrics, University of Michigan	July 2005 -
Director, Fellowship Program in Pediatric Health Services Research, Division of General Pediatrics, University of Michigan	July 2006 -
Associate Director, Robert Wood Johnson Clinical Scholars Program, University of Michigan	July 2007 - June 2008
Co-Director, Robert Wood Johnson Foundation Clinical Scholars Program, University of Michigan	July 2008 -
Co-Director, Child Health Initiative Working Group, Michigan Institute for Clinical & Health Research (CTSA), University of Michigan	May 2011 - Sep 2011
Director, Child Health Initiatives Working Group, Michigan Institute for Clinical & Health Research (CTSA), University of Michigan	Sep 2011 - March 2013
Associate Director, Michigan Institute for Clinical & Health Research (CTSA), University of Michigan	Jan 2012 - March 2013
Faculty Director, Path of Excellence in Health Policy—Programs, Systems, and Economics, University of Michigan Medical School	November 2014 -
Director, Communities Engagement Core and Participant Recruitment Core, Michigan Institute for Clinical & Health Research (MICHR)	Jan 2015 -
Deputy Director, Institute for Healthcare Policy and Innovation, University of Michigan	May 2015 -

CLINICAL/HOSPITAL APPOINTMENTS

Clinical Instructor in Pediatrics and Internal Medicine, Harvard Medical School	June 1994 - June 1998
Clinical Instructor in Pediatrics and Internal Medicine, University of Chicago, Pritzker School of Medicine	July 1998 - June 2000
Staff Physician in Pediatrics and Communicable Diseases and Internal Medicine, University of Michigan Health System	July 2000 -

PUBLIC HEALTH / HEALTH POLICY APPOINTMENTS

Chief Medical Executive, Department of Community Health and Department of Health and Human Services, State of Michigan	March 2013 - April 2015

GRANT SUPPORT

Current

Principal Investigator: *National Voices Project*
W.K. Kellogg Foundation
Total cost: $2,135,229. July 2011 - June 2016.

Principal Investigator: *C.S. Mott Children's Hospital National Poll on Children's Health*
University of Michigan Health System
Total cost: $1,868,800. July 2010 - June 2016.

Principal Investigator: *Health Homes Project – Planning and Evaluation*
Michigan Department of Health and Human Services
Total cost: $272,000. May 2015 - September 2016.

Co-Investigator (PI: G Mashour): *Michigan Institute for Clinical and Health Research*
NIH / National Center for Advancing Translational Science
Total cost: $48,788,667. June 2012 - May 2017.

Recent

Principal Investigator: *Pediatric Health Services Research Training* (T32)
Eunice Kennedy Shriver National Institute for Child Health and Human Development
Total cost: $1,271,100. May 2010 - June 2015.

Principal Investigator: *Coursera Initiative: Understanding and Improving the US Healthcare System.*
University of Michigan Medical School.
Total cost: $10,000. January 2013 - December 2013.

Principal Investigator: *The Michigan Child Health Research Priorities (M-CHRP) Project*
Department of Pediatrics and Communicable Diseases
Total cost: $20,000. February 2012 - February 2013.

Principal Investigator: *Economics of Vaccines - Tracking Vaccines under Development to Determine Cost Drivers of the Vaccine Development and Approval Process*
Centers for Disease Control and Prevention
Total cost: $498,038. September 2009 - September 2011.

Principal Investigator: *Voices National Poll*
W.K. Kellogg Foundation
Total cost: $100,000. April 2010 - September 2010.

Principal Investigator: *Innovation Bridge – Linking Biotech Breakthroughs to Emerging Vaccine Manufacturers*
Bill and Melinda Gates Foundation
Total cost: $100,000. October 2008 - September 2009.

Principal Investigator: *Using MEPS Data to Inform Public-Plan Consumerism*
Agency for Healthcare Research and Quality
Total cost: $99,999. July 2007 - June 2008.

Principal Investigator: *Insurance Coverage of Child, Adolescent, and Adult Vaccines*
Partnership for Prevention
Total cost: $124,995. May 2006 - October 2007.

Principal Investigator: *Health Tracking*
Center for Studying Health System Change
Total cost: $97,171. November 2006 - December 2007.

Principal Investigator: *Future Costs of Childhood Obesity: Estimates and Implications*
United States Department of Agriculture
Total cost: $150,000. October 2004 - September 2006.

Principal Investigator: *Market Forces or Misinformation? Exploring the Link Between Self-Insuring Employers and Underinsurance*
Robert Wood Johnson Foundation Generalist Physician Faculty Scholars Program
Total cost: $299,769. July 2002 - June 2006.

Principal Investigator: *How Adult Diabetes Interventions Affect Children*
Blue Cross Blue Shield of Michigan Foundation
Total cost: $10,000. September 2005 - June 2006.

Principal Investigator: *Summer Workshop in Michigan Medicaid Research*
National Poverty Center
Total cost: $10,000. May 2005 - April 2006.

Principal Investigator: *Increasing Costs of Public-Sector Purchase of Childhood Vaccines*
Centers for Disease Control and Prevention.
Total cost: $200,693. September 2001 - September 2003.

Principal Investigator: *Evaluation of the Etiologies of Transitions in Children's Insurance Status and Effects on Healthcare Utilization and Expenditures*
Economic Research Initiative on the Uninsured (Robert Wood Johnson Foundation)
Total cost: $63,961. April 2003 - December 2004.

Co-Investigator: *Variation in Immunization Practices*
(PI: Gary L. Freed, MD, MPH)
Centers for Disease Control and Prevention
Total cost: $1,400,000. September 2004 - October 2013.

Co-Investigator: *BMI2 – Brief Motivational Interviewing to Reduce Child BMI*
(PI: Kenneth Resnicow, PhD)
Eunice Kennedy Shriver National Institute for Child Health and Human Development
Total cost: $3,416,177. April 2008–June 2013.

Co-Investigator: *Mobilizing Peer Support for Effective Congestive Heart Failure Self-Management*
(PI: Michele Heisler, MD, MPA)
National Heart, Lung, and Blood Institute
Total cost: $2,018,444. July 2006 - June 2011.

Co-Investigator and Faculty Mentor: *OB CARES: The Obstetric Clinics and Resources Study*
(PI: Christie Lancaster, MD, MSc)
Michigan Institute for Clinical & Health Research
Total cost: $4,644. February 2010 - June 2011.

Co-Investigator: *Pediatric and Managed Care Issues—Medicaid*
(PI: Gary L. Freed)
State of Michigan Department of Community Health
Total cost: $1,087,676. October 2005 - September 2006.

Co-Investigator: *Enhancing Private Provider Immunization Recall*
(PI: Kevin J. Dombkowski, DrPH)
Centers for Disease Control and Prevention
Total cost: $600,000. October 2006 – November 2009.

Co-Investigator and Faculty Mentor: *A National Study of Health Care Among Foster Children*
(PI: Sandra H. Jee, MD, MPH)
Ambulatory Pediatric Association
Total cost: $10,000. July 2003 – June 2004.

Co-Investigator and Faculty Mentor: *Healthcare Expenditures and Utilization Among Overweight Youth*
(PI: Iris R. Mabry, MD, MPH)
National Poverty Center
Total cost: $9,640. July 2003 – June 2004.

HONORS AND AWARDS

National Scholar, Swarthmore College	1985 - 1989
Garrigues Music Scholar, Swarthmore College	1987 - 1989
Ivy Award (for contributions to the college community), Swarthmore College	1989
Phi Beta Kappa, Swarthmore College chapter	1989
Paul Dudley White Fellowship in International Health, Harvard Medical School	1991, 1993
Pediatric Prize, New England Pediatric Society	1994
Arnold Dunn Award (for compassionate patient care), Brigham and Women's Hospital	1995
Irving B. Harris Fellow in Child Policy, University of Chicago	1999 - 2000
Outstanding Educator, Division of General Pediatrics, University of Michigan	2001
Young Investigator Award in Clinical and Health Services Research, Department of Pediatrics, University of Michigan	2001
Milton W. Hamolsky Junior Faculty Award, Society of General Internal Medicine, annual national meeting	2002
Outstanding Abstract, Academy of Health Services Research and Health Policy, annual national meeting	2002
Young Investigator Award in Clinical Research, Department of Pediatrics, University of Michigan	2003
Teaching Honor Roll, Gerald R. Ford School of Public Policy, University of Michigan	2004 - 2006, 2008, 2010, 2012, 2013, 2015
Token of Appreciation from Medical Students, University of Michigan Medical School	2007, 2009
National Nemours Award in Child Health Services Research	2007
Featured Vaccinologist, *Human Vaccines*	2010
Associate Chair for Research Award, Department of Pediatrics and Communicable Diseases, to support *The Michigan Child Health Research Priorities (M-CHRP) Project*	2012
Distinguished Mentor Award, Michigan Institute of Clinical and Health Research, University of Michigan	2012
Mentor Recognition for Fellow's Research Award presented to Stephen W. Patrick, Ambulatory Pediatric Association	2012
Principal Investigator, "WellSpringboard" – First Place Winner in Patient-Centered Outcomes Research Institute Challenge Initiative	2013
Principal Investigator, "WellSpringboard" – Second Place Winner in Patient-Centered Outcomes Research Institute Matchmaking App Challenge	2014

Snyder Memorial Lecturer in Medicine and the Humanities, Swarthmore College, Swarthmore, PA	2014
Visiting Professor, Royal Children's Hospital, Melbourne, Australia	2014
Inaugural Visiting Professor in Internal Medicine and Pediatrics, Children's Hospital and Brigham & Women's Hospital, Harvard Medical School, Boston, MA	2015
Visiting Professor, PolicyLab, Children's Hospital of Philadelphia Philadelphia, PA	2015
Regents' Award for Distinguished Public Service, University of Michigan	2015

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Society of General Internal Medicine	1998 -
Society for Medical Decision-Making	1999 -
Ambulatory Pediatric Association / Academic Pediatric Association	2000 -
Association of Teachers of Preventive Medicine	2001 -
AcademyHealth (formerly Association of Health Services Research and Health Policy)	2001 -
American College of Physicians / American Society of Internal Medicine	2002 -
Society for Pediatric Research (elected)	2004 -

SCIENTIFIC ACTIVITIES

Chair, Planning Committee for the Robert Wood Johnson Clinical Scholars Program annual Health Economics Symposium	2000
Peer Reviewer, *Journal of the Ambulatory Pediatric Association/ Ambulatory Pediatrics/Academic Pediatrics*	2000 -
Peer Reviewer, *Journal of General Internal Medicine*	2000 -
Peer Reviewer, *Up-To-Date*	2000 - 2003, 2010
Peer Reviewer, *Archives of Pediatric and Adolescent Medicine / JAMA-Pediatrics*	2001 -
Peer Reviewer, *JAMA*	2001 -
Peer Reviewer, *Journal of Health Policy, Politics, and Law*	2001 -
Peer Reviewer, *Annals of Internal Medicine*	2002 -
Peer Reviewer, *American Journal of Managed Care*	2003 -
Peer Reviewer, National Poverty Center grants program	2003 - 2006
Member, Editorial Board, *Ambulatory Pediatrics*	2005 - 2007
Peer Reviewer, Ambulatory Pediatric Association Young Investigators Grants Program	2005 - 2007
Peer Reviewer, *Journal of Policy and Management*	2005 -
Peer Reviewer, *Health Services Research*	2005 -
Peer Reviewer, *Vaccine*	2005 -
Lead Author, Guidelines for Prevention of Childhood Obesity, American Medical Association and American Academy of	2005 - 2007

Pediatrics	
Member, Influenza Vaccine Group, American Heart Association	2006 -
Peer Reviewer, *Health Affairs*	2006 -
Study Section Member – Health, Behavior, and Context Subcommittee, National Institutes of Health	2006
Senior Health Researcher, Center for Studying Health System Change, Washington, DC	2006 - 2007
Member, Editorial Board, *Archives of Pediatrics and Adolescent Medicine / JAMA-Pediatrics*	2007 - 2013
Founding Director, C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan	2007 -
Peer Reviewer, *New England Journal of Medicine*	2008 -
Founding Web Editor, *Archives of Pediatrics and Adolescent Medicine / JAMA-Pediatrics*	2008 - 2013
Study Section Member – Disease, Disability, and Injury Prevention and Control Special Emphasis Panel, Centers for Disease Control and Prevention	2009
Member, Expert Advisory Committee, Measuring Pediatric Access to Specialty Health Care by Insurance Status (PI: Karin Rhodes, MD, MS; funded by State of Illinois)	2009 - 2012
Co-Guest Editor, Special Issue on "Bridging the Gap Between Research and Health Policy," *HSR – Health Services Research*	2010 - 2012
Chair, National Center for Chronic Disease Prevention and Health Promotion Special Emphasis Panel, Centers for Disease Control and Prevention	2011
Member, Special Advisory Panel to the Director of the National Center for Advancing Translational Sciences, National Institutes of Health	2013 - 2014
Member, Special Review Panel, National Institute of Diabetes and and Digestive and Kidney Diseases, National Institutes of Health	2015

TEACHING ACTIVITIES

Intramural Invited Presentations (selected)

"Teen problem-solving and its impact on tobacco use." Grand Rounds, Department of Pediatrics, Pritzker School of Medicine, University of Chicago.	1999
Health Services Research Seminar (semi-annually), Child Health Evaluation and Research (CHEAR) Unit, Division of General Pediatrics, University of Michigan	2000 -
"Are parental depressive symptoms linked to underimmunization of young children?" Grand Rounds, Department of Pediatrics, University of Michigan	2001
"Smallpox: new challenges from an old foe," Grand Rounds, Department of Pediatrics, University of Michigan	2002

"The Medicare Prescription Drug Improvement and Modernization Act of 2003: Policy Implications." Faculty panelist, University of Michigan.	2004
"Obesity trends during childhood and adolescence: insights for clinicians and policymakers", Grand Rounds, Department of Pediatrics, University of Michigan	2005
"Obesity trends during childhood and adolescence: findings from the PSID-CDS", invited speaker, Series on the Panel Study of Income Dynamics, Institute for Social Research, University of Michigan	2005
"Are the best vaccines still ahead, or already behind us? Costs, contradictions, and controversies in childhood immunization," Grand Rounds, Department of Pediatrics and Communicable Diseases	2008
"Health and Health Care in Michigan," Seminars in Medicine for M3 curriculum, University of Michigan Medical School	2008
"Health Care Reform Proposals of the 2008 Candidates for President," Seminars in Medicine for M3 curriculum, University of Michigan Medical School	2008
"Health Care Platforms of the 2008 Presidential Candidates," expert panel convened by the Roosevelt Institution, University of Michigan	2008
"Policy Advice for the Newly Elected President," expert panel convened by Dean Susan Collins of the Gerald R. Ford School of Public Policy, University of Michigan	2008
"When Families Refuse Vaccines," presentation to the Health Sciences Scholars Program for Undergraduates, University of Michigan	2009
"Dilemmas in Development and Delivery of Vaccines," Bioethics Grand Rounds, University of Michigan Health System.	2009
"Health Care Reform in the US Under President Obama and a Democratic Congress," Special Guest Lecturer, Program in Public Policy and International Affairs, University of Michigan	2009
"Fresh Challenges in Development and Delivery of Vaccines," Grand Rounds, Department of Pediatrics and Communicable Diseases, University of Michigan	2009
"Health Care Reform: Proposals, Politics, and Prospects," Special Panel Symposium, Gerald R. Ford School of Public Policy, University of Michigan	2009
"What Type of Health Care Reform Would be Best for Primary Care?" Featured Speaker for Primary Care Week, University of Michigan Medical School	2009
"Financing Development of Drugs and Vaccines for Neglected Diseases," Faculty Commentator, Gerald R. Ford School of Public Policy, University of Michigan	2010
"Making Sense of Health Policy Reform: Latest Events, Greatest Hopes," Grand Rounds, Department of Pediatrics and	2010

Communicable Diseases

"(False) Summits and (True) Profits: Health Care Reform in the United States," Grand Rounds, Department of Internal Medicine	2010
"Public Preferences for Participation in Medical Research," Grand Rounds, Department of Pediatrics and Communicable Diseases	2011
"Quality of Health Care and the Affordable Care Act," guest speaker in Health Care Reform in the U.S., taught by Jill Horwitz at University of Michigan Law School	2011
"Policy Analysis vs Policy Advocacy," guest speaker in HMP 615-Introduction to Public Health Policy at University of Michigan School of Public Health	2011
"Presidents, Precedents, and Healthcare Reform in the United States," Guest Lecturer in History 234 for undergraduate students at University of Michigan; lead faculty: Joel Howell, MD, PhD	2012 -
"Teen Pregnancy, Infant Mortality and the Public Voice: New Approaches to Old Problems at the Nexus of Maternal and Child Health," Grand Rounds, Department of Obstetrics and Gynecology, University of Michigan Health System	2012
"Priorities for the Health and Healthcare of Michigan's Children: Perspectives from Lansing," Grand Rounds, Department of Pediatrics and Communicable Diseases, University of Michigan Health System	2013
"Presidential Politics for 2016: How Will Health Policy Play a Role?" Grand Rounds, Department of Anesthesiology, University of Michigan Health System	2015
"Health Policymaking in Michigan: a View from the Inside," Grand Rounds, Department of Pediatrics and Communicable Diseases, University of Michigan Health System	2015

Courses and Seminars

Primary Care Internal Medicine weekly morning report, Brigham & Women's Hospital, Boston, Massachusetts	1997
Internal Medicine resident journal club, faculty lead, University of Chicago	1999 - 2000
"Introduction to the Patient: Health Policy," small group section leader, Year 2 curriculum, University of Michigan Medical School	2001
"Medical Decision-Making," small group section leader, Year 2 curriculum, University of Michigan Medical School	2001 - 2003
Public Policy 740, Gerald R. Ford School of Public Policy: "Issues in Child and Family Health Policy," a full-semester, 3-credit course for master's level students	2002 - 2006
"Threats to Successes in Child Health Policy in the United States," instructor for health policy module in the Public Policy and International Affairs program for minority undergraduates at Gerald R. Ford School of Public Policy, University of	2003 - 2004, 2008

Michigan	
"Health Economics and Health Policy," lead instructor for segment of Clinical Foundations of Medicine course, Years 1, 2, and 3 curriculum, University of Michigan Medical School	2006 -
Public Policy 700, Gerald R. Ford School of Public Policy: "Independent Study" for master's level students as 3-credit, full-semester course	2006 -
Public Policy 768, Gerald R. Ford School of Public Policy: "Efforts at Health Care Reform in the United States – Past, Present, and Future," a full-semester, 3-credit course for master's-level students	2008, 2010, 2012, 2013
Public Policy 495, Gerald R. Ford School of Public Policy: "Principles and Realities of Health Care Reform," a full-semester, 3-credit course for upper-level undergraduate students	2008
Health and Health Care Research 740 and 741, Rackham School of Graduate Studies, "Research on Organization, Financing, and Delivery of Health Care," two full-semester 3-credit courses for physician-investigators-in-training	2008 -
"Containing Health Care Costs," originator and lead instructor for annual M2 elective course, 6 hours of class time	2010 - 2014
"History of Health Care Reform in the United States," instructor for health policy module in the Public Policy and International Affairs program for minority undergraduates at Gerald R. Ford School of Public Policy, University of Michigan	2011, 2013, 2015
"Understanding and Improving the US Healthcare System," lead developer and lead faculty for massive open online course provided on the global Coursera platform	2013 -
Public Policy 750, Gerald R. Ford School of Public Policy: "Medicaid as an Innovative and Challenging Safety Net," a half-semester, 1-credit course for master's-level students	2015

Clinical Mentorship

Internal Medicine & Pediatrics residency program, weekly resident continuity clinic preceptor at Canton Health Center, University of Michigan	July 2000 - December 2006
Internal Medicine & Pediatrics residency program, *ad hoc* resident continuity clinic preceptor at Canton Health Center, University of Michigan	January 2007 -

Research Mentorship

Internal Medicine & Pediatrics residency program, resident research mentor, University of Michigan (1-3 residents mentored each academic year)	July 2000 -
Core Faculty, Pediatric Health Services Research Fellowship Program, Division of General Pediatrics, University of Michigan	July 2000 -

(1-4 fellows mentored each academic year)

Affiliated Faculty, Robert Wood Johnson Clinical Scholars Program, University of Michigan (1-2 fellows mentored each academic year)	July 2000 - June 2004
Core Faculty, Robert Wood Johnson Foundation Clinical Scholars Program, University of Michigan (3-10 fellows mentored each academic year)	July 2004 -

COMMITTEE AND ADMINISTRATIVE SERVICE

Admissions Committee, Harvard Medical School	1991 - 1992
Residency Selection Committee, Harvard Combined Program in Medicine and Pediatrics	1994 - 1998
Member, Residency Selection Committee, Departments of Pediatrics and Communicable Diseases and Internal Medicine, University of Michigan	2002 - 2006
Member, Resident Research Committee, Department of Pediatrics, University of Michigan	2003 - 2006
Member of Judging Panel, Annual Resident Research Day, St. Joseph Mercy Hospital, Ann Arbor, Michigan	2004 - 2005
Member, 2006 Annual Meeting Planning Committee, AcademyHealth	2005 - 2006
Lead Faculty Advisor, Medical School and Gerald R. Ford School of Public Policy Dual Degree MD/MPP Program, University of Michigan	2006 -
Pediatric Clinical Research Committee, University of Michigan	2008
Member, External Planning Committee, Annual National Immunization Conference	2008 - 2009
Faculty Lead, Medical School coursework in Health Policy and Health Economics, M1-M3 years, University of Michigan	2008 -
Member, Instructional Track Appointments, Promotions, and Tenure Committee, Department of Pediatrics and Communicable Diseases, University of Michigan	2010 - 2014
Member, Grand Rounds Committee, Department of Pediatrics and Communicable Diseases, University of Michigan	2010 - 2012
Member, Child Health Initiative Working Group, Michigan Institute for Clinical and Health Research (MICHR), University of Michigan	2010 - 2011
Member, Search Committee, Founding Director of the Institute of Healthcare Policy and Innovation, University of Michigan	2010 - 2011
Member, Harvard Medical School Alumni Council	2011 - 2014
Co-Chair, Inaugural Events for the Institute for Healthcare Policy and Innovation, University of Michigan	2012 - 2013
Member, Research and Policy Committee, Center for Healthcare Research and Transformation	2012 -
Member, Selection Committee for the Michigan Institute of Clinical and Health Research (MICHR) Mentor Award	2013 -
Member, Institute Leadership Team, Institute for Healthcare Policy	2013 -

and Innovation, University of Michigan

Member, Search Committee for Associate Dean for Clinical and Translational Research, University of Michigan — 2015

EXTRAMURAL INVITED PRESENTATIONS

"Methodological issues in the application of quality-adjusted life-years to interventions regarding children." Presentation at Environmental Protection Agency of white paper submitted as background for the *Child Health Evaluation Handbook,* Washington, DC. — June 2001

"Vaccine shortages and vaccine economics." Presented at the National Immunization Program, Centers for Disease Control and Prevention, Atlanta, GA. — March 2002

"Increasing costs of public-sector purchase of childhood vaccines." Presented at the National Immunization Program, Centers for Disease Control and Prevention, Atlanta, GA. — March 2003

"Insurance transitions for children and adults." Grand Rounds, Harvard Combined Program in Internal Medicine and Pediatrics, Boston, MA. — June 2003

"Adult vaccine benefit coverage in employer-sponsored health plans." Presented at the National Immunization Program, Centers for Disease Control and Prevention, Atlanta, GA. — March 2004

"Insurance coverage of vaccines." Presented to the National Vaccine Advisory Committee, Washington, DC. — February 2005

"Considering the costs of vaccines." Presented at the National Immunization Program, Centers for Disease Control and Prevention, Atlanta, GA. — March 2005

"Old challenges, new opportunities in insurance coverage for adult vaccines." Presented to the National Vaccine Advisory Committee, Washington, DC. — November 2005

"Addressing children's underinsurance through policy-relevant research." Presented within Pediatric Academic Societies Topic Symposium, "From Health Services Research to Public Policy," at annual PAS meeting, San Francisco, CA. — May 2006

"Counting the costs of childhood obesity." Grand Rounds, Department of Pediatrics, Beaumont Hospital, Royal Oak, MI. — October 2006

"Vaccine financing strategies and industry research opportunities: the global perspective." Plenary presentation at the World Vaccine Congress, Washington, DC. — April 2009

"Innovation Bridge: New vaccines, new partnerships." Plenary presentation at the Developing Country Vaccine Manufacturers Network 10th annual meeting, Beijing, China. — September 2009

"Health care reform in the United States." Featured speaker at town hall meeting, Northville, MI. — October 2009

"Opportunities for health care reform during the Obama — November 2009

administration." Featured speaker at quarterly meeting of the Washtenaw County Medical Society, Ann Arbor, MI.	
"A critical examination of legislative options for health care reform." Department of Internal Medicine Journal Club, Saint Joseph Mercy Health System, Ann Arbor, MI.	December 2009
"Making sense of health policy reform." Grand Rounds, Department of Internal Medicine, Saint Joseph Mercy Hospital, Ann Arbor, MI.	March 2010
"Fresh challenges in the development and delivery of vaccines." Grand Rounds, Department of Pediatrics, Beaumont Hospital, Royal Oak, MI.	June 2010
"Illuminating the global R&D pipeline for prophylactic vaccines." Featured speaker, special presentation, International AIDS Vaccine Initiative, New York, NY.	December 2010
"Understanding challenges and opportunities in research and development of prophylactic vaccines." Featured guest lecturer, Bloomberg School of Public Health, The Johns Hopkins University, Baltimore, MD.	March 2011
"Characterizing and understanding the R&D pipeline for prophylactic vaccines." Presented at National Center for Influenza and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, GA.	April 2011
"National Voices Project." Featured panel presenter at America Healing national meeting of grantees of the W.K. Kellogg Foundation, Asheville, NC.	May 2011
"Failings in pediatrics (and what health services research can do about them)." Featured faculty presenter, 1st Annual Child Health Services Research Symposium, Indiana University Purdue University at Indianapolis, Indianapolis, IN.	September 2011
"Addressing significant unmet needs through world class vaccine pipelines." Featured plenary speaker, World Vaccine Congress, Lyon, France.	October 2011
"Challenges and opportunities in research, development and financing of prophylactic vaccines." Featured guest lecturer, Bloomberg School of Public Health, The Johns Hopkins University, Baltimore, MD.	February 2012
"Challenges and successes in new vaccine development for adults." Grand Rounds speaker, Saint John's Hospital, Detroit, MI.	October 2012
"National Voices Project." Featured panel presenter at America Healing national meeting of grantees of the W.K. Kellogg Foundation, Asheville, NC.	April 2013
"Clinical implications of healthcare reform for academic medical centers." Association of Academic Internal Medicine annual meeting, New Orleans, LA.	October 2013
"Making progress but losing ground: the quicksand of infant mortality in the United States." Snyder Memorial Lecture, Swarthmore College, Swarthmore, PA.	March 2014
"The Million Hearts Initiative: Can the Affordable Care Act	May 2014

deliver?" Million Hearts Initiative Workshop, Okemos, MI.

"What if we asked the public?" Grand Rounds presentation, Royal Children's Hospital, Melbourne, Australia. — August 2014

"Infant mortality as a state health priority and key index of population health in Michigan." Health Policy guest lecturer, Oakland University William Beaumont Medical School, Troy, MI. — October 2014

"Health services research and impact of the field of infant mortality research." Keynote speaker, annual meeting of the Midwest Society of Pediatric Research, Cleveland Clinic, Cleveland, OH. — October 2014

"What if we asked the public? Measuring attitudes, influencing policy." Grand Rounds presentation, Children's Hospital, Boston, MA. — January 2015

"From affecting to effecting health policy: focusing on population health as a physician, researcher, and government official." Grand Rounds presentation, Brigham & Women's Hospital, Boston, MA. — January 2015

"Importance of addressing neonatal abstinence syndrome in Michigan." Keynote address for statewide symposium: NAS—Primary and Secondary Prevention; a Team Approach. Okemos, MI. — May 2015

"In the belly of the policy beast: Data, debate, and the value of the academic voice." PolicyLab Seminar presentation, Children's Hospital of Philadelphia, Philadelphia, PA. — May 2015

"MHA Keystone Pain Management: Why, who, what, how?" Keynote address, Michigan Health and Hospitals Association Keystone Symposium, Dearborn, MI. — May 2015

SELECTED OTHER PRESENTATIONS

"Parental depression as a determinant of undervaccination among preschool-aged children." Plenary presentation, Robert Wood Johnson Clinical Scholars Program annual meeting, Ft. Lauderdale, FL. — November 2000

"The future of childhood vaccine costs in the public sector." Platform presentation, Robert Wood Johnson Clinical Scholars Program annual meeting, Ft. Lauderdale, FL. — November 2001

"Cost-effectiveness analysis of immunization strategies regarding smallpox bioterrorism." Platform presentation, Society of General Internal Medicine annual meeting, Atlanta, GA. — May 2002

"State-level demographic, economic, and political factors associated with children's vaccination rates." Oral presentation, AcademyHealth annual meeting, Washington, D.C. — June 2002

"Factors associated with transitions in children's health insurance." Platform presentation, Pediatric Academic Societies annual meeting, Seattle, WA. — May 2003

"Projected economic impact of childhood vaccine shortages." — May 2003

Platform presentation, Pediatric Academic Societies annual meeting, Seattle, WA.

"Decline in varicella-related hospitalizations and expenditures after introduction of varicella vaccine." Platform presentation, Pediatric Academic Societies annual meeting, San Francisco, CA. — May 2004

"State school and daycare entry laws associated with higher varicella immunization rates." Platform presentation, Pediatric Academic Societies annual meeting, San Francisco, CA. — May 2004

"Healthcare utilization and expenditures associated with adults' transitions in health insurance status." Platform presentation, Society of General Internal Medicine annual meeting, Chicago, IL. — May 2004

"Preferences and tradeoffs for preventive services in health plans." Platform presentation, Society of General Internal Medicine annual meeting, Chicago, IL. — May 2004

"Attitudes of medical subspecialists regarding influenza vaccine." Oral presentation, National Immunization Conference, Nashville, TN. — March 2004

"Benefits coverage for adult vaccines in employer-sponsored health plans." Oral presentation, National Immunization Conference, Nashville, TN. — March 2004

"Assessing the potential effect of programmatic changes in Medicaid and SCHIP on children's uninsured rates." Research panel presentation at the 2005 annual Child Health Services Research Meeting of AcademyHealth, Washington, D.C. — June 2005

"How many successes and how many failures? Vaccine development in the United States, 1995-2008." Oral presentation, National Immunization Conference, Dallas, TX. — March 2009

"How many successes and how many failures? Vaccine development in the United States, 1995-2008." Oral symposium presentation, Pediatric Academic Societies annual meeting, Baltimore, MD. — May 2009

"Implications of national health care reform for the University of Michigan Health System." Presentation to the Regents of the University of Michigan. — May 2010

"Implications of racial/ethnic diversity for health in the United States—2030." Featured speaker, Society 2030 meeting, Institute for Social Research, University of Michigan. — June 2011

"Focusing on passion, difference, and service." Keynote presentation at graduation of the Michigan Health Sciences Summer Institute / Undergraduate Research Academy, University of Michigan. — August 2014

BIBLIOGRAPHY

Peer-Reviewed Publications

1) Davis FB, Blas SD, **Davis MM**, Davis PJ. Analogue-specific action *in vitro* of atrial natriuretic factor on human red blood cell Ca2+-ATPase activity. *Hypertension.* 1988;12:428-433.
2) **Davis MM,** Andreae M, Freed GL. Physicians' early challenges related to the pneumococcal conjugate vaccine. *Ambul Pediatr* 2001;1:302-305.
3) Kemper AR, **Davis MM,** Freed GL. Expected adverse events in a smallpox vaccination campaign for children and young adults. *Eff Clin Pract* 2002;5:84-90.
4) Freed GL, **Davis MM,** Andreae MC, Bass S, Weinblatt H. Reimbursement for Prevnar: A modern-day version of Hercules and the Hydra. *Pediatrics.* 2002;110:399-400.
5) **Davis MM,** McMahon SR, Santoli JM, Schwartz B, Clark SJ. A national survey of physician practices regarding influenza vaccine. *J Gen Intern Med* 2002;17:670-676.
6) Cabana MD, Aiken KD, **Davis MM,** Freed GL, Clark SJ. Combined effect of changes in guideline recommendations and immunization financing policy on nursery immunizations. *Ambul Pediatr* 2002;2:367-374.
7) **Davis MM,** Zimmerman JL, Wheeler JRC, Freed GL. The costs of childhood vaccine purchase in the public sector: past trends, future expectations. *Am J Public Health.* 2002;92:1982-1987.
8) Freed GL, **Davis MM,** Clark SJ. Variation in public and private supply of pneumococcal conjugate vaccine during a shortage. *JAMA.* 2003;289:575-578.
9) Kemper AR, **Davis MM.** Under scrutiny: smallpox vaccine recommendations. *Expert Opin Pharmacother.* 2003;4:1207-1214.
10) **Davis MM,** Ndiaye SM, Freed GL, Kim CS, Clark SJ. Influence of insurance status and vaccine cost on physicians' administration of pneumococcal conjugate vaccine. *Pediatrics.* 2003;112:521-526.
11) **Davis MM,** Ndiaye SM, Freed GL, Clark SJ. One-year uptake of pneumococcal conjugate vaccine: a national survey of family physicians and pediatricians. *J Am Board Fam Pract.* 2003;16:363-371.
12) Cabana MD, Rand C, Slish K, Nan B, **Davis MM,** Clark N. Pediatrician self-efficacy for counseling parents of asthmatic children to quit smoking. *Pediatrics.* 2004;113:78-81.
13) **Davis MM,** Wortley PM, Ndiaye SM, Woods MG, Clark SJ. Availability of influenza vaccine among medical subspecialty practices: a national survey. *Am J Prev Med.* 2004;26:307-310.
14) Pollack HA, Dombkowski KJ, Zimmerman JB, **Davis MM,** Cowan AE, Wheeler JRC, Hillemeier AC, Freed GL. Emergency department use among Michigan children with special health care needs: an introductory study. *Health Serv Res.* 2004;39:665-692.
15) Aiken KD, Freed GL, **Davis MM.** When insurance status isn't static: insurance transitions for low-income children and implications for health and health care. *Ambul Pediatr* 2004;4:237-243.
16) Flynn HA, **Davis MM,** Marcus SM, Cunningham R, Blow FC. Rates of maternal depression in pediatric emergency department and relationship to child service utilization. *Gen Hosp Psychiatry.* 2004;26:316-322.
17) **Davis MM,** Upston AM. State legislator gender and other characteristics associated with sponsorship of child health bills. *Ambul Pediatr* 2004;4:295-302.
18) Jee SH, **Davis MM.** Factors associated with variations in parental social support in primary care pediatric settings. *Ambul Pediatr* 2004;4:316-322.
19) **Davis MM,** Patel MS, Gebremariam A. Decline in varicella-related hospitalizations and expenditures for children and adults after introduction of varicella vaccine in the United States. *Pediatrics.* 2004;114:786-792.
20) Odetola O, Clark SJ, Freed GL, Bratton SL, **Davis MM.** A national survey of the distribution of pediatric critical care resources in the United States. *Pediatrics.* 2005;115:382-386.
21) Kemper AR, Cowan AE, Ching PL, **Davis MM,** Kennedy E, Clark SJ, Freed GL. Hospital decision-making regarding the smallpox pre-event vaccination program. *Biosecur Bioterr.* 2005;3:23-30.

22) **Davis MM,** Gaglia M. Association of daycare and school entry vaccination requirements with varicella immunization rates. *Vaccine.* 2005;23:3053-3060.
23) **Davis MM,** Fant KE. Coverage of vaccines in private health plans: what does the public prefer? *Health Aff.* 2005;24:770-779.
24) **Davis MM,** Halasyamani LK, Sneller V-P, Bishop KR, Clark SJ. Provider response to different formats of the adult immunization schedule. *Am J Prev Med.* 2005;29:34-40.
25) Odetola O, Miller W, **Davis M,** Bratton S. The relationship between the location of pediatric intensive care unit facilities and child death from trauma: a county-level ecologic study. *J Pediatr.* 2005;147:74-77.
26) Yoon EY, **Davis MM,** Van Cleave J, Maheshwari S, Cabana MD. Factors associated with non-attendance at pediatric subspecialty asthma clinics. *J Asthma.* 2005;42:555-559.
27) Gopal S, **Davis MM.** Improving delivery of influenza vaccine to nonelderly persons with cardiovascular disease, with and without sufficient national supply of vaccine: a decision analysis. *Hum Vaccin.* 2005;1:217-223.
28) Odetola FO, Clark SJ, **Davis MM**. Growth, development and failure to thrive: Factors that underlie the availability of pediatric critical care facilities in the United States. *Pediatr Crit Care Med.* 2006; 7:70-73.
29) **Davis MM,** Slish K, Chao C, Cabana MD. National trends in bariatric surgery, 1996-2002. *Arch Surg.* 2006;141:71-74.
30) Yoon EY, **Davis MM,** El-Essawi H, Cabana MD. FDA labeling status of pediatric medications. *Clin Pediatr (Phila)).* 2006;45:75-78.
31) Lee JM, **Davis MM,** Clark SJ, Hofer TJ, Kemper AR. Estimated cost-effectiveness of growth hormone therapy for idiopathic short stature. *Arch Pediatr Adolesc Med.* 2006; 160:263-269.
32) Patel MS, **Davis MM.** Could a federal program promoting influenza vaccination among elders be cost-effective? *Prev Med.* 2006;42:240-246.
33) Gaglia MA, **Davis MM.** States' emergency orders regarding the 2004-05 influenza vaccine shortage. *Hum Vaccin.* 2006;2:34-37.
34) **Davis MM.** Successes and remaining challenges after 10 years of varicella vaccination in the United States. *Expert Rev Vaccines.* 2006;5:295-302.
35) Cowan AE, Winston CA, **Davis MM,** Wortley PM, Clark SJ. Influenza vaccination status and influenza-related attitudes and practices among US physicians. *Am J Infect Control.* 2006;34:164-169.
36) Jee SH, Barth RP, Szilagyi MA, Szilagyi PG, Aida M, **Davis MM.** Factors associated with chronic conditions among children in foster care. *J Health Care Poor Underserved.* 2006;17:328-341.
37) Kemper AR, Dombkowski KJ, Menon RK, **Davis MM.** Trends in diabetes mellitus among privately insured children, 1998-2002. *Ambul Pediatr.* 2006;6:178-181.
38) Odetola F, Tilford JM, **Davis MM.** Variation in the use of intracranial pressure monitoring and mortality in critically ill children with meningitis in the United States. *Pediatrics.* 2006;117:1893-1900.
39) Flynn HA, Cain SA, O'Mahen HA, **Davis MM.** Detection of maternal alcohol use problems in the pediatric emergency department. *Alcohol Clin Exp Res.* 2006;30:1160-1164.
40) Mmeje O, **Davis MM.** Will coverage for child and adolescent immunizations be mandated in insurance plans in 2006? Lessons learned from the Newborns and Mothers Health Protection Act of 1996. *Pediatrics.* 2006;118:388-392.
41) **Davis MM,** Broder KR, Cowan AE, Mijalski C, Kretsinger K, Stokley S, Clark SJ. Physician attitudes and preferences regarding new combined tetanus-diphtheria-acellular pertussis vaccines for adolescents in the United States. *Amer J Prev Med.* 2006;31:176-180.
42) Patel UD, **Davis MM.** Physicians' attitudes and practices regarding adherence to medical regimens

by patients with chronic illness. *Clin Pediatr (Phila).* 2006;45:439-45.

43) Patel UD, **Davis MM.** Falling into the doughnut hole: drug spending among beneficiaries with end-stage renal disease under Medicare Part D plans. *Am J Nephrol.* 2006; 17: 2546-2553.
44) Gurney JG, McPheeters ML, **Davis MM.** Health conditions and health care utilization among children with and without autism: National Survey of Children's Health. *Arch Pediatr Adolesc Med.* 2006;160:825-830.
45) Dombkowski KJ, **Davis MM,** Cohn L, Clark SJ. Potential for improving influenza vaccination rates among children with asthma. *Arch Pediatr Adolesc Med.* 2006;160:966-971.
46) **Davis MM,** Taubert K, Benin AL, Brown DW, Mensah GA, Baddour LM, Dunbar S, Krumholz HM. Influenza vaccination as secondary prevention for cardiovascular disease. *Circulation.* 2006;114:1549-1553.
47) Van Cleave J, **Davis MM.** Bullying behaviors and children with special health care needs in a national sample. *Pediatrics.* 2006;118:1212-1219.
48) Okumura M, Campbell A, Nasr S, **Davis MM.** Inpatient health care utilization among adult survivors of chronic childhood illnesses in the United States. *Arch Pediatr Adolesc Med.* 2006;160:1054-1060.
49) Lee JM, Okumura M, **Davis MM,** Herman WH, Gurney JG. Prevalence and determinants of insulin resistance among U.S. adolescents: a population based study. *Diabetes Care.* 2006;29:2427–2432.
50) Clark SJ, Adolphe S, **Davis MM,** Cowan AE, Kretsinger K. Attitudes of U.S. obstetricians toward a combined tetanus-diphtheria-acellular pertussis vaccine for adults. *Infect Dis Obstet Gynecol.* 2006;2006:1-5.
51) Odetola FO, Shanley TP, Gurney JG, Clark SJ, Dechert RE, Freed GL, **Davis MM.** Characteristics and outcomes of inter-hospital transfers from Level II to Level I pediatric intensive care units. *Pediatr Crit Care Med.* 2006;7:536-540.
52) Clark SJ, Cowan AE, Stokley S, Bilukha O, **Davis MM.** Physician perspectives to inform a new meningococcal conjugate vaccine (MCV4) recommendation. *J Adolesc Health.* 2006;39:850-855.
53) Dempsey AF, **Davis MM.** Overcoming barriers to adherence to HPV vaccination recommendations. *Am J Manag Care.* 2006;12:S484-S491.
54) Laroche HH, Hofer TP, **Davis MM.** Adult fat intake associated with the presence of children in households: findings from NHANES III. *J Am Board Fam Med.* 2007;20:9-15.
55) **Davis MM,** Patel MS, Halasyamani L. Variation in estimated Medicare prescription drug plan costs and affordability for beneficiaries living in different states. *J Gen Intern Med.* 2007;22:257-263.
56) **Davis MM,** Marin M, Cowan AE, Guris D, Clark SJ. Physician attitudes regarding breakthrough varicella disease and a potential second dose of varicella vaccine. *Pediatrics.* 2007;119:258-264.
57) Lee JM, **Davis MM,** Clark SJ, Kemper AR. Threshold of evaluation for short stature in a pediatric specialty clinic: differences between boys versus girls? *J Pediatr Endocrinol Metab.* 2007; 20:21-26.
58) Woolford SJ, Clark SJ, Lumeng JC, Williams DR, **Davis MM.** Maternal perspectives on growth and nutrition counseling provided at preschool well-child visits. *J Natl Med Assoc.* 2007;99:153-158.
59) **Davis MM,** Halasyamani LK. Conflicting measures of hospital quality: ratings from 'Hospital Compare' versus 'Best Hospitals.' *J Hosp Med.* 2007;2:128-134.
60) **Davis MM,** Kretsinger K, Cowan AE, Stokely S, Clark SJ. New combined tetanus-diphtheria-acellular pertussis vaccines for adults: primary care physician attitudes and preferences. *Hum Vaccin.* 2007; published online, available at: http://www.landesbioscience.com/journals/vaccines/abstract.php?id=4307.
61) Yoon EY, Dombkowski KJ, Rocchini A, Lin JJ, **Davis MM.** Off-label utilization of antihypertensive medications in children. *Ambul Pediatr.* 2007;7:299-303.
62) Woolford S, Clark SJ, Gebremariam A, **Davis MM.** Inpatient hospital charges associated with obesity as a secondary diagnosis in children. *Obesity.* 2007;15:1895-1901.
63) Okumura MJ, McPheeters M, **Davis MM**. State and national estimates of insurance coverage and

health care utilization for adolescents with chronic conditions from the National Survey of Children's Health Survey, 2003. *J Adolesc Health.* 2007;41:343-349.

64) Lee JM, Okumura MJ, Freed GL, Menon RK, **Davis MM.** Trends in hospitalizations for diabetes among children and young adults – United States, 1993-2004. *Diabetes Care.* 2007;30:3035-3039.
65) **Davis MM,** Gance-Cleveland B, Hassink S, Johnson R, Paradis G, Resnicow K. Recommendations for prevention of childhood obesity. *Pediatrics.* 2007;120:S229-S253.
66) Van Cleave J, Heisler M, DeVries JM, Joiner TA, **Davis MM.** Discussion of illness during well-child visits with parents of children with and without special health care needs. *Arch Pediatr Adolesc Med.* 2007;161:1170-1175.
67) Laroche HH, **Davis MM,** Forman J, Palmisano G, Heisler M. What about the children? The experience of families involved in an adult-focused diabetes intervention. *Public Health Nutr.* 2007; published online, available at: http://journals.cambridge.org/download.php?file=%2FPHN%2FS136898000700791a.pdf&code=1df0b200917a34dd1e3a1a9fe14560df.
68) Odetola FO, Rosenberg AL, **Davis MM,** Clark SJ, Dechert RE, Shanley TP. Do outcomes vary according to the source of admission to the pediatric intensive care unit? *Pediatr Crit Care Med.* 2008;9:20-25.
69) Schilling PL, **Davis MM,** Albanese CT, Dutta S, Morton J. National trends in adolescent bariatric surgical procedures and implications for surgical centers of excellence. *Bull Am Coll Surg.* 2008;206:1-12.
70) Lee JM, **Davis MM,** Menon RK, Freed GL. The geographic distribution of childhood diabetes and obesity to the supply of pediatric endocrinologists in the US. *J Pediatr.* 2008;152;331-336.
71) Woolford SJ, **Davis MM,** Gebremariam A, Strecher V. Physicians' perspectives on increasing the use of BMI charts for young children. *Clin Pediatr (Phila).* 2008;47:573-577.
72) **Davis MM,** Wortley PM, Ndiaye SM, Cowan AE, Osta AD, Clark SJ. Vaccinating high-risk non-elderly adults against influenza: a national survey of subspecialists. *Human Vaccines.* 2008;4:229-233.
73) Zivin K, McCammon RJ, **Davis MM,** Halasyamani LK, Kales HC. Increases in Medicare prescription drug plan costs attributable to psychotropic medications. *Am J Geriatr Psychiatry.* 2008;16:674-685.
74) Dempsey AF, Cowan AE, Stokley S, Messonnier M, Clark SJ, **Davis MM.** The role of economic information in decision-making by the Advisory Committee on Immunization Practices. *Vaccine.* 2008;26:5389-5392.
75) Laroche HH, Heisler M, Forman J, Anderson M, **Davis MM.** When adults with diabetes attempt to drink less soda: resulting adult-child interactions and household changes. *J Natl Med Assoc.* 2008;100:1004-1011.
76) Caskey RN, **Davis MM**. Differences in end-of-life hospital care for children associated with age, transfer status, and insurance coverage for children. *J Hosp Med* 2008;3(5):376-83.
77) Tarini BA, Singer DC, Clark SJ, **Davis MM.** Parental concerns about genetic disease risk: the effects of family history and genetic test results. *Arch Pediatr Adolesc Med.* 2008;162:1079-1083.
78) Harari N, **Davis MM,** Heisler M. Strangers in a strange land: health care experiences for recent Latino immigrants in Midwest communities. *J Health Care Poor Underserved.* 2008;19:1350-1367.
79) **Davis MM,** McGonagle K, Schoeni RF, Stafford F. Relative associations of parental and grandparental obesity with risk of childhood overweight: implications for primary care practice. *J Am Board Fam Med.* 2008;21:549-554.
80) Patel MS, Gebremariam A, **Davis MM**. Herpes zoster-related hospitalizations and expenditures before and after introduction of varicella vaccine in the United States. *Infect Control Hosp Epidemiol* 2008;29:1157-1163.

81) Danziger S, **Davis MM**, Orzol S, Pollack HA. Health insurance and access to care among welfare leavers. *Inquiry.* 2008;45:184-197.
82) Van Cleave J, **Davis MM**. Preventive care utilization among children with and without special health care needs: associations with unmet need. *Ambul Pediatr.* 2008;8:305-311.
83) Okumura MJ, Heisler M, **Davis MM**, Cabana MD, Demonner S, Kerr EA. Comfort of general internists and general pediatricians in providing care for young adults with chronic illnesses of childhood. *J Gen Intern Med.* 2008;23:1621-1627.
84) Hoilette LK, Clark SJ, Gebremariam A, **Davis MM.** Usual source of care and unmet need among vulnerable children: 1998-2006. *Pediatrics.* 2009;123:e214-e219.
85) Yoon EY, **Davis MM**, Rocchini A, Kershaw D, Freed GL. Medical management of children with primary hypertension by pediatric subspecialists. *Pediatr Nephrol.* 2009;24:147-153.
86) Macy ML, Stanley RM, Lozon MM, Sasson C, Gebremariam A, **Davis MM.** Trends in high-turnover stays among children hospitalized in the United States – 1993-2003. *Pediatrics.* 2009;123:996-1002.
87) Woolford SJ, Gebremariam A, Clark SJ, **Davis MM.** Persistent gap of incremental charges for obesity as a secondary diagnosis in common pediatric hospitalizations. *J Hosp Med.* 2009;4:149-156.
88) Odetola F, **Davis MM,** Cohn L, Clark SJ. Interhospital transfer of critically ill and injured children: an evaluation of transfer patterns, resource utilization, and clinical outcomes. *J Hosp Med.* 2009;4:164-170.
89) Hassan F, Lewis TC, **Davis MM,** Gebremariam A, Dombkowski KJ. Hospital utilization and charges among children with influenza, 2003. *Amer J Prev Med.* 2009;36:292-296.
90) Dempsey AF, Espinosa C, **Davis MM.** Unintended vaccination of pregnant adolescents: Estimating the scope of the problem and the impact of different pregnancy testing strategies. *Vaccine.* 2009;27:3536-3543.
91) Yoon EY, **Davis MM,** Freed GL, Clark SJ. Formulary coverage for lipid-lowering drugs recommended for children. *Clinical Pediatrics.* 2009;48:609-613.
92) Lee JM, Gebremariam A, Card-Higginson P, Shaw JL, Thompson JW, **Davis MM.** Poor performance of body mass index as a marker for hypercholesterolemia in children and adolescents. *Arch Pediatr Adolesc Med.* 2009;163:716-723.
93) Tarini BA, Singer DC, Butchart AT, Clark SJ, **Davis MM.** Parents' interest in predictive genetic testing for their children when a disease has no effective treatment. *Pediatrics.* 2009;124:e432-e438.
94) Patel MS, Lypson ML, **Davis MM.** Medical student perceptions of education in health care systems. *Acad Med.* 2009;84:1301-1306.
95) Dempsey AF, Singer DC, Clark SJ, **Davis MM.** Parents' views on three shot-related visits: Implications for use of adolescent vaccines like human papillomavirus vaccine. *Acad Pediatrics.* 2009;9:348-352.
96) Yoon EY, **Davis MM,** Kershaw, D, Clark SJ. Formulary coverage for antihypertensive drugs used in children. *Am J Pharm Benefits.* 2009;1:145-149.
97) Dempsey AF, Singer DC, Clark SJ, **Davis MM.** Adolescent preventive healthcare: what do parents want? *J Pediatr.* 2009;155:689-694.
98) Laroche HH, **Davis MM,** Forman J, Palmisano G, Reisinger HS, Tannas C, Spencer M, Heisler M. Children's roles in parents' diabetes self-management. *Amer Jour Prev Med.* 2009;37(6S1):S251-S261.
99) Davis RN, Caldwell C, Clark SJ, **Davis MM.** Depressive symptoms in non-resident African American fathers and involvement with their sons. *Pediatrics.* 2009;124:1611-1618.
100) Lee JM, Pilli S, Gebremariam A, Keirns CC, **Davis MM**, Vijan S, Freed GL, Herman WH, Gurney JG. Getting heavier, younger: trajectories of obesity over the life course. *Int J Obes (Lond).* 2009

Dec 1. [Epub ahead of print]

101) Woolford SJ, Clark SJ, Ahmed AR, **Davis MM.** Feasibility and acceptability of a one-page tool to help physicians assess and discuss obesity with parents of preschoolers. *Clin Pediatr.* 2009;48:954-959.

102) Lee JM, **Davis MM,** Woolford SJ, Gurney JG. Waist circumference percentile thresholds for identifying adolescents with insulin resistance in clinical practice. *Pediatric Diabetes.* 2009;10:336-342.

103) Hollingsworth JM, **Davis MM,** West BT, Wolf JS Jr, Hollenbeck BK. Trends in medical expulsive therapy use for urinary stone disease in U.S. emergency departments. *Urology.* 2009;74:1206-1210.

104) **Davis MM,** Butchart AT, Coleman MS, Singer DC, Wheeler JRC, Pok A, Freed GL. The expanding vaccine development pipeline, 1995-2008. *Vaccine.* 2010;28:1353-1356.

105) Lancaster CA, Gold KJ, Flynn HA, Yoo H, Marcus SM, **Davis MM.** Risk factors for depressive symptoms during pregnancy: a systematic review. *Amer Jour Obstet Gyn.* 2010;5-14.

106) Schilling P, Campbell D, Englesbe M, **Davis MM.** A comparison of in-hospital mortality risk conferred by high hospital occupancy, differences in nurse staffing levels, weekend admission, and seasonal influenza. *Medical Care.* 2010;48:224-232.

107) Freed GL, Clark SJ, Butchart AT, Singer DC, **Davis MM.** Parental vaccine safety concerns in 2009. *Pediatrics.* 2010;125:654-659.

108) Macy ML, Kim CS, Sasson C, Lozon MM, **Davis MM.** Pediatric observation units in the United States: a systematic review. *Jour Hosp Med.* 2010;5:172-182.

109) Okumura MJ, Kerr EA, Cabana MD, **Davis MM,** Demonner S, Heisler M. Physician views on barriers to primary care for young adults with childhood-onset chronic disease. *Pediatrics.* 2010;125:e748-e754.

110) Freed GL, Dunham KM, Clark SJ, **Davis MM**, on behalf of the Research Advisory Committee of the American Board of Pediatrics. Perspectives and preferences regarding physician selection and board certification among the general public. *J Pediatr.* 2010;156;841-845.

111) Tarini BA, Goldenberg A, Singer D, Clark SJ, Butchart A, **Davis MM.** Not without my permission: parents' willingness to permit use of newborn screening samples for research. *Public Health Genomics.* 2010;13:125-130.

112) Lancaster CA, Flynn HA, Johnson TRB, Marcus SM, **Davis MM.** Peripartum length of stay for women with depressive symptoms during pregnancy. *Jour Women's Health.* 2010;19:31-37.

113) Woolford SJ, Clark SJ, Gebremariam A, **Davis MM,** Freed GL. To cut or not to cut: physicians' perspectives on referring adolescents for bariatric surgery. *Obes Surg.* 2010;20:937-942.

114) Sussman J, Halasyamani LK, **Davis MM.** Hospitals during recession and recovery: vulnerable institutions and quality at risk. *Jour Hosp Med.* 2010;5:302-305.

115) Odetola FO, Gebremariam A, **Davis MM.** Comorbid illnesses among critically ill hospitalized children: impact on hospital resource use and mortality, 1997-2006. *Pediatr Crit Care Med.* 2010; 11:457-463.

116) Woolford SJ, Clark SJ, Gebremariam A, **Davis MM,** Freed GL. Physicians' perspectives on referring obese adolescents to pediatric multidisciplinary weight management programs. *Clin Pediatr.* 2010;49:871-875.

117) Macy ML, Stanley RM, Sasson C, Gebremariam A, **Davis MM.** High turnover stays for pediatric asthma in the United States: analysis of the 2006 Kids' Inpatient Database. *Med Care.* 2010;48:827-833.

118) Lee JM, Gebremariam A, **Davis MM,** Kim C. Trends in hospitalizations for diabetes over the life course. *Jour Women's Health.* 2010;19:2033-2042.

119) Patel MS, **Davis MM,** Lypson ML. Advancing medical education by teaching health policy. *N Engl Jour Med.* 2011;364:695-697.

120) Eisenberg D, Freed GL, **Davis MM,** Singer D, Prosser LA. Valuing health at different ages: evidence from a nationally representative survey in the US. *Applied Health Economics & Health Policy.* 2011;9:149-156.
121) Yoon EY, Clark SJ, Singer DC, Butchart AT, **Davis MM**. Parental preferences for FDA-approved medications prescribed for their children. *Clin Pediatr.* 2011;50:208-214.
122) Davis N, **Davis MM,** Freed GL, Clark SJ. Fathers' depression related to positive and negative parenting behaviors with one-year-old children. *Pediatrics.* 2011;127:612-618.
123) Freed GL, Clark SJ, Butchart AT, Singer DC, **Davis MM.** Sources and perceived credibility of vaccine safety information for parents. *Pediatrics.* 2011;127(supp1):S107-S112.
124) Palladino CL, Flynn HA, Richardson C, Marcus SM, Johnson TRB, **Davis MM**. Lengthened pre-delivery stay and antepartum complications in women with depressive symptoms during pregnancy. *Jour Women's Health.* 2011;20:953-962.
125) Benneyworth BD, Shanley TS, Odetola F, **Davis MM.** Inpatient health care utilization for children dependent on long-term mechanical ventilation – United States, 2000-2006. *Pediatrics.* 2011;127:e1533 -e1541.
126) Macy ML, **Davis MM,** Clark SJ, Stanley R. Parental health literacy and asthma education delivery during a visit to a community-based pediatric emergency department: a pilot study. *Pediatr Emerg Care.* 2011;27:469-474.
127) Palladino CL, Fedock GL, Forman JH, **Davis MM,** Henshaw E, Flynn HA. OB CARES – The obstetric clinic and resources study: providers' perceptions of addressing perinatal depression—a qualitative study. *Gen Hosp Psych.* 2011;33:267-278.
128) Zickafoose JS, Gebremariam A, Clark SJ, **Davis MM.** Medical home disparities between children with public and private insurance. *Academic Peds.* 2011;11:305-310.
129) **Davis MM,** Walter JK. Equality in quality in the era of the Affordable Care Act. *JAMA.* 2011:306:872-873.
130) Hassan F, **Davis MM,** Chervin RD. No independent association between insufficient sleep and childhood obesity in the National Survey of Children's Health. *J Clin Sleep Med.* 2011;7:153-157.
131) Dempsey AF, Schaffer S, Singer D, Butchart A, **Davis MM,** Freed GL. Alternative vaccination schedule preferences among parents of young children. *Pediatrics.* 2011;128:848-856.
132) **Davis MM,** Butchart AT, Wheeler JRC, Coleman MS, Singer DC, Freed GL. Failure-to-success ratios, transition probabilities and phase lengths for prophylactic vaccines versus other pharmaceuticals in the development pipeline. *Vaccine.* 2011;29:9414-9416.
133) Dayoub EJ, **Davis MM.** Relationship of therapeutic cancer vaccine development to population disease burden and five-year survival. *Human Vaccines.* 2011;7:1124-1129.
134) Odetola FO, Clark SJ, Lamarand KE, **Davis MM,** Garton HJ. Intracranial pressure monitoring in childhood meningitis with coma: a national survey of neurosurgeons in the United States. *Pediatr Crit Care Med.* 2011;12:e350-356.
135) Espinosa CM, **Davis MM,** Gilsdorf JR. Anaerobic osteomyelitis in children. *Pediatr Infect Dis J.* 2011;30:422-423.
136) Zickafoose JS, Benneyworth B, Riebschleger MP, Espinosa CE, **Davis MM.** Hospitalizations for intussusception before and after re-introduction of rotavirus vaccine in the United States. *Arch Pediatr Adolesc Med.* 2012;166:350-355.
137) Myrvik MP, Campbell AD, **Davis MM,** Butcher JL. Impact of psychiatric diagnoses on hospital length of stay in children with sickle cell anemia. *Pediatr Blood Cancer.* 2012;58:239-243.
138) Sun GH, **Davis MM**. The Patient Protection and Affordable Care Act of 2010: impact on otolaryngology practice and research. *Otolaryngol Head Neck Surg.* 2012 Jan 26. [Epub ahead of print]
139) Abir M, Choi H, Cooke CR, Wang SC, **Davis MM.** Effect of a mass casualty incident: clinical

outcomes and hospital charges for casualty patients versus concurrent inpatients. *Acad Emerg Med.* 2012;19:280-286.

140) Zickafoose JS, Gebremariam A, **Davis MM.** Medical home disparities for children by insurance type and state of residence. *Matern Child Health Jour.* 2012;16 Suppl 1:S178-S187.

141) Patrick SW, Schumacher RE, Benneyworth BD, Krans EE, McAllister JM, **Davis MM.** Neonatal abstinence syndrome and associated health care expenditures. *JAMA.* 2012;307:1934-1940.

142) Danziger P, **Davis MM.** Mandatory influenza vaccination programs for health care personnel in NACHRI-associated children's hospitals vs. non-children's hospitals. *Human Vaccines Immunotherapeutics.* 2012;8:731-735.

143) Singer DC, **Davis MM,** Gebremariam A, Clark SJ. Underinsurance for recently recommended vaccines in private health plans. *Jour Community Health.* 2012;37:1164-1167.

144) Macy ML, Clark SJ, Freed GL, Butchart AT, Singer DC, Sasson C, Meurer WJ, **Davis MM.** Carpooling and booster seats: a national survey of parents. *Pediatrics.* 2012;129:290-298.

145) Weinberg SH, Butchart AT, **Davis MM.** Size of clinical trials and introductory prices of prophylactic vaccine series. *Human Vaccines Immunotherapeutics.* 2012;8:1066-1070.

146) Patrick SW, Choi H, **Davis MM.** Increase in federal match associated with significant gains in coverage for children through Medicaid and SCHIP. *Health Affairs.* 2012;31:1796-1802.

147) Gowda C, Carlos RC, Butchart AT, Singer DC, **Davis MM,** Clark SJ, Dempsey AF. CHIAS: a standardized measure of parental HPV immunization attitudes and beliefs and its associations with vaccine uptake. *Sexual Transmit Dis.* 2012:39:475-481.

148) Sears ED, **Davis MM,** Chung KC. Relationship between timing of emergency procedures and limb amputation in patients with open tibia fracture in the United States, 2003 to 2009. *Plast Reconst Surg.* 2012;130:369-378.

149) Patrick SW, Schumacher RE, **Davis MM.** Variation in lumbar punctures for early onset neonatal sepsis: a nationally representative serial cross-sectional analysis, 2003-2009. *BMC Pediatrics.* 2012:12:134. DOI: 10.1186/1471-2431-12-134.

150) Patel MS, **Davis MM,** Lypson ML. The VALUE framework: training residents to provide value-based care for their patients. *Jour Gen Intern Med.* 2012;27:1210-1214.

151) Sears ED, Burke JF, **Davis MM,** Chung K. The influence of procedure delay on resource utilization: a national study of patients with open tibial fracture. *Plast Reconst Surg.* 2013;131:553-563.

152) **Davis MM,** Clark SJ, Butchart AT, Singer DC, Shanley TP, Gipson DS. Public participation in, and awareness about, medical research opportunities in the era of clinical and translational research. *Clin Transl Sci.* 2013;6:88-93.

153) Jensen KM, **Davis MM.** Health care in adults with Down syndrome: a longitudinal cohort study. *Jour Intell Disability Res.* 2013;57:947-958.

154) Woolford SJ, Clark SJ, Butchart A, Geiger JD, **Davis MM,** Fagerlin A. To pay or not to pay: public perception regarding insurance coverage of obesity treatment. *Obesity.* 2013;21:E709-E714.

155) Jensen KM, **Davis MM,** Cooke CM. Fidelity of administrative data when researching Down syndrome. *Medical Care.* 2013 Jan 25. [epub ahead of print]

156) Auger K, Kahn R, **Davis MM,** Beck A, Simmons J. Medical home quality and readmission risk for children hospitalized with asthma exacerbations. *Pediatrics.* 2013;131:64-70.

157) Sun GH, Auger KA, Aliu O, Patrick SW, Demonner S, **Davis MM.** Posttonsillectomy hemorrhage in children with von Willebrand disease or hemophilia. *JAMA Otolaryngol Head Neck Surg.* 2013;139:245-249.

158) Abir M, **Davis MM,** Sankar P, Wong AC, Wang SC. Design of a model to predict surge capacity bottlenecks for burn mass casualties at a large academic medical center. *Prehosp Disaster Med.* 2013;28:23-32.

159) Jensen KM, Taylor LC, **Davis MM.** Primary care for adults with Down syndrome: adherence to

preventive healthcare recommendations. *Jour Intell Disability Res.* 2013;57:409-421.
160) Pynnonen M, **Davis MM.** Extent of sinus surgery, 2000 to 2009: a population-based study. *Laryngoscope.* 2013;[epub ahead of print].
161) Krans EE, **Davis MM,** Palladino CL. Disparate patterns of prenatal care utilization stratified by medical and psychosocial risk. *Matern Child Health J.* 2013;17:639-645.
162) Aliu O, **Davis MM,** Demonner S, Chung KC. The influence of evidence in the surgical treatment of thumb basilar joint arthritis. *Plast Reconstr Surg.* 2013;131:816-828.
163) Goldenberg AJ, Dodson DS, **Davis MM,** Tarini BA. Parents' interest in whole-genome sequencing of newborns. *Genet Med.* 2013;[epub ahead of print].
164) Patrick SW, Schumacher RE, **Davis MM.** Methods of mortality risk adjustment in the NICU: a 20-year review. *Pediatrics.* 2013;131:S68-S74.
165) DeCamp LR, Kieffer E, Zickafoose JS, DeMonner S, Valbuena F, **Davis MM,** Heisler M. The voices of limited English proficiency mothers on pediatric primary care: lessons for the medical home. *Matern Child Health Jour.* 2013;17:95-109.
166) Patrick SW, **Davis MM,** Sedman AB, Meddings JA, Hieber S, Lee GM, Stillwell TL, Chenoweth CE, Espinosa CM, Schumacher RE. Accuracy of hospital administrative data in reporting central line-associated bloodstream infections in newborns. *Pediatrics.* 2013;131:S75-S80.
167) Sun GH, Auger KA, Aliu O, Patrick SW, Demonner S, **Davis MM.** Variation in inpatient tonsillectomy costs within and between US hospitals attributable to postoperative complications. *Med Care.* 2013;51:1048-1054.
168) Zickafoose JS, **Davis MM.** Medical home disparities are not created equal: differences in the medical home for children from different vulnerable groups. *J Health Care Poor Underserved.* 2013;24:1331-1343.
169) Walter JK, Benneyworth BD, Housey M, **Davis MM.** The factors associated with high-quality communication for critically ill children. *Pediatrics.* 2013;131:S90-S95.
170) Krans EE, **Davis MM,** Schwarz EB. Psychosocial risk, prenatal counseling and maternal behavior: findings from PRAMS, 2004-2008. *Am J Obstet Gynecol.* 2013;208:141.e1-e7.
171) Gaies MG, Jacobs JP, Cotts TB, **Davis MM.** The Patient Protection and Affordable Care Act: impact on care to patients with paediatric and congenital cardiac disease. *Cardiol Young.* 2013;10:1-4.
172) Walter JK, Burke JF, **Davis MM.** Research participation by low-income and race/ethnic minority groups: how payment may change the balance. *Clin Trans Sci.* 2013;6:363-371.
173) Sun GH, Demonner S, **Davis MM.** Epidemiological and economic trends in inpatient and outpatient thyroidectomy in the United States, 1996-2006. *Thyroid.* 2013;23:727-733.
174) Chang T, Choi H, Richardson CR, **Davis MM.** Implications of teen birth for overweight and obesity in adulthood. *Am J Obstet Gynecol.* 2013;110:e1-e7.
175) Heisler M, Halasyamani L, Cowen ME, **Davis MM,** Resnicow K, Strawderman RL, Choi H, Mase R, Piette JD. Randomized controlled effectiveness trial of reciprocal peer support in heart failure. *Circ: Heart Failure.* 2013:6:246-253.
176) Chang T, **Davis MM.** Potential adult Medicaid beneficiaries under the Patient Protection and Affordable Care Act compared with current adult Medicaid beneficiaries. *Ann Fam Med.* 2013;11:406-411.
177) Haggins A, Patrick S, Demonner S, **Davis MM.** When coverage expands: children's health insurance program as a natural experiment in use of health care services. *Acad Emerg Med.* 2013;20:1026-1032.
178) Auger KA, Patrick SW, **Davis MM.** Infant hospitalizations for pertussis before and after Tdap recommendations for adolescents. *Pediatrics.* 2013;132:5:e1149-e1155.
179) Cobb EM, Singer DC, **Davis MM.** Public interest in medical research participation: differences by volunteer status and study type. *Clin Trans Sci.* 2014;7:145-149.

180) Goldenberg AJ, Dodson DS, **Davis MM,** Tarini BA. Parents' interest in whole-genome sequencing of newborns. *Genet Medicine.* 2014:16:78-84.
181) Hanauer DA, Zheng K, Singer DC, Gebremariam A, **Davis MM.** Public awareness, perception, and use of online physician rating sites. *JAMA.* 2014;311:734-735.
182) Mueller EL, Park ER, **Davis MM.** What the Affordable Care Act means for survivors of pediatric cancer. *Jour Clin Oncol.* 2014;32:615-617.
183) Moniz MH, Chang T, **Davis MM.** Attitudes about mandated coverage of birth control medication and other health benefits in a US national sample. *JAMA.* 2014;311:2539-2541.
184) Hashikawa AN, Brousseau DC, Singer DC, Gebremariam A, **Davis MM.** Emergency department and urgent care for children excluded from child care. Pediatrics. 2014; 134(1):e120-7.
185) Auger KA, Kenyon CC, Feudtner C, **Davis MM.** Pediatric hospital discharge interventions to reduce subsequent utilization: a systematic review. *J Hosp Med.* 2014;9:251-260.
186) Sekhar DL, Clark SJ, **Davis MM,** Singer DC, Paul IM. Parental perspectives on adolescent hearing loss risk and prevention. *JAMA Otolaryngol Head Neck Surg.* 2014;140:22-28.
187) Krans EE, **Davis MM.** Strong Start for mothers and newborns: implications for prenatal care delivery. *Curr Opin Obstet Gynecol.* 2014; 511-515.
188) Kircher SM, Johansen ME, Nimeiri HS, Richardson CR, **Davis MM.** Impact of Medicare Part D on out-of-pocket drug costs and medical use for patients with cancer. *Cancer.* 2014;120:3378-3384.
189) Auger KA, Kahn RS, **Davis MM,** Simmons JM. Pediatric asthma readmission: asthma knowledge is not enough? *J Pediatr.* 2014;166:101-108.
190) Clark SA, Shoulders EN, **Davis MM.** Infant pertussis prevention information on Web sites of Michigan birthing hospitals. *Am Jour Inf Cntrl.* 2014;42:1241-1243.
191) Sandberg KC, **Davis MM,** Gebremariam A, Adler J. Increasing hospitalizations in inflammatory bowel disease among children in the United States, 1988-2011. *Inflamm Bowel Dis.* 2014;20:1754-1760.
192) Hanauer DA, Zheng K, Singer DC, Gebremariam A, **Davis MM.** Parental awareness and use of online physician rating sites. *Pediatrics.* 2014;134:e966-975.
193) Patrick SW, Kaplan HC, Passarella M, **Davis MM,** Lorch SA. Variation in treatment of neonatal abstinence syndrome in US children's hospitals. *J Perinatol.* 2014;34:867-872.
194) Sun GH, MacEachern MP, Perla RJ, Gaines JM, **Davis MM,** et al. Health care quality improvement publication trends. *Am Jour Med Qual.* 2014;29:403-407.
195) Barbaro RP, Odetola FO, Kidwell KM, Paden ML, Bartlett RH, **Davis MM*,** Annich GM* (*=joint senior authorship). Association of hospital-level volume of extracorporeal membrane oxygenation cases and mortality: analysis of the extracorporeal life support organization registry. *Am J Respir Crit Care Med.* 2015;191:894-901.
196) Jensen KM, Sevick CJ, Seewald LAS, Halbower AC, **Davis MM,** McCabe ERB, et al. Greater risk of hospitalization in children with Down syndrome and OSA at higher elevation. *Chest.* 2015;147:1344-1351.
197) Patrick SW, **Davis MM,** Lehman CU, Cooper WO. Increasing incidence and geographic distribution of neonatal abstinence syndrome: United States 2009 to 2012. *J Perinatol.* Published online first 30 Apr 2015; doi:10.1038/jp.2015.36.
198) Krans EE, Moloci NM, Housey MT, **Davis MM.** Impact of psychosocial risk factors on prenatal care delivery: a national provider survey. *Matern Child Health J.* 2014;18:2362-2370
199) Pynonnen MA, Lynn S, Kern HE, Novis SJ, Akkina SR, Keshavarzi NR, **Davis MM.** Diagnosis and treatment of acute sinusitis in the primary care setting: a retrospective cohort. *Laryngoscope.* 2015; published online first 22 May 2015;doi:10.1002/lary.25363.
200) Auger KA, Jerardi KE, Simmons JE, **Davis MM,** O'Toole JK, Sucharew HJ. It's complicated: overcoming statistical challenges of group learning in medical education research. *J Grad Med Ed.*

2015;7:326-330.

201) Auger KA, **Davis MM.** Pediatric weekend admission and increased unplanned readmission rates. *J Hosp Med.* Published online first 18 Sep 2015, DOI: 10.1002/jhm.2426.

Editorials and Commentaries (non-peer-reviewed)

1) **Davis MM,** Lantos JD. Ethical considerations in the public policy laboratory. *JAMA.* 2000;284:85-87.
2) **Davis MM,** Kemper AR. Valuing childhood vaccines. *J Pediatr.* 2003;143:283-284.
3) **Davis MM.** Race-based immunization recommendations and the potential to reduce racial disparities. *JAMA.* 2004;291:2253-2255.
4) **Davis MM,** Szilagyi PG. Can quality improvement reach into pockets of need for childhood immunizations? *Ambul Pediatr* 2004;4:224-225.
5) **Davis MM.** Planning the next wave of SCHIP research. *Pediatrics.* 2005;115:492-494.
6) **Davis MM.** Varicella vaccine, cost-effectiveness analyses, and vaccination policy. *JAMA.* 2005;294:845-846.
7) Van Cleave J, Kemper AR, **Davis MM.** Interpreting negative results from an underpowered clinical trial: warts and all. *Arch Pediatr Adolesc Med.* 2006;160:1126-1129.
8) Garfield CF, Clark-Kauffman E, **Davis MM.** Fatherhood as a component of men's health. *JAMA.* 2006;296:2365-2368.
9) **Davis MM.** Cardiac rehabilitation as a site for influenza vaccination? *J Cardiopulm Rehabil Prev.* 2007;27:210-211.
10) **Davis MM.** Reasons and remedies for underinsurance for childhood and adolescent vaccines. *JAMA.* 2007;298:680-682.
11) **Davis MM,** Brosco JP. Being specific about being special: definitions of childhood chronic conditions and children with special health care needs. *Arch Pediatr Adolesc Med.* 2007;161:1003-1005.
12) **Davis MM.** Challenges in cost-effectiveness analyses of hospital interventions to improve quality. *Infect Control Hosp Epidemiol.* 2008;29:395-397.
13) **Davis MM,** Shah S. Necessary innovations in immunization delivery. *Arch Pediatr Adolesc Med.* 2009;163:483-485.
14) Shah S, **Davis MM.** Old disease, innovative response: accelerating infant vaccination during a community pertussis outbreak. *JAMA.* 2009;301:2260-2261.
15) Rivara FP, **Davis MM.** Archives journal club just a click away. *Arch Pediatr Adolesc Med.* 2009;163:957.
16) **Davis MM.** Medicaid, underinsurance, and the dawn of an era for children's coverage. *Pediatrics.* 2010;125:817-819.
17) **Davis MM.** Price as a double-edged sword in the golden era of vaccines. *Human Vaccines.* 2010;6:689-693.
18) **Davis MM.** The conundrum of combination vaccines. *Arch Pediatr Adolesc Med.* 2010;164:1171-1172.
19) Chopra V, **Davis MM.** In search of equipoise. *JAMA.* 2011;305:1234-1235.
20) **Davis MM,** Dayoub E. A strategic approach to therapeutic cancer vaccines in the 21st century. *JAMA.* 2011;305:2343-2344.
21) **Davis MM,** CP Gross, CM Clancy. Building a bridge to somewhere better: linking health care research and health policy. *Health Services Res.* 2012:47:329-336.
22) Krans EE, **Davis MM.** *Preventing Low Birthweight:* 25 years, prenatal risk, and the failure to reinvent prenatal care. *Amer Jour Obstet Gynecol.* 2012;206:398-403.

23) Christakis DA, Joffe A, Keren R, **Davis MM,** Shah SS, Rivara FP. Introducing *JAMA Pediatrics. Arch Pediatr Adolesc Med.* 2012;166:663.
24) **Davis MM,** Riebschleger MP. The next century of children's health care: addressing disparities, workforce deficiencies, and undercoordinated services. *Arch Pediatr Adolesc Med.* 2011;165:1067-1068.
25) Vickery KD, Sauser K, **Davis MM.** Policy responses to demand for health care access: from the individual to the population. *JAMA.* 2013;309:665-666.
26) Patrick SW, **Davis MM.** Reformulating the federal match as a key to the sustainability of Medicaid. *JAMA Pediatr.* 2013;167:218-220.
27) **Davis MM.** Stunting the growth of child health research: a need to reframe "children are not small adults." *JAMA Pediatr.* 2013;167:598-599.

Non-Peer-Reviewed Publications and Published Letters

1) **Davis MM**. Music as a means of public health education among Guatemalan schoolchildren. Honors thesis, Harvard Medical School, Boston, 1994.
2) **Davis, MM.** Health through song: Outreach workers in Benin and Guatemala use lyrics to promote health. *Harv Med Alumni Bull.* 1999;73:36-41.
3) **Davis MM.** Health behaviors (helping patients change). In: *Pocket Primary Care.* LK Halasyamani, BP Lucas, eds. Philadelphia: Lippincott Williams & Wilkins, 2001. pp. 4-5.
4) **Davis MM.** Effects and ethics of sanctions on childhood immunization rates. *JAMA.* 2000;284:2057. [letter]
5) **Davis MM,** Bruckman D, Cabana MD, Clark SJ, Dombkowski KJ, Kemper AR, Rushton JL, Freed GL. Constructive use of race and ethnicity variables. *Arch Pediatr Adol Med.* 2001;155:973. [letter]
6) **Davis MM,** Kemper AR. Valuing vaccines. *J Pediatr.* 2004;145:568. [letter]
7) **Davis MM.** Effect of pneumococcal vaccination on quality of life in children with recurrent acute otitis media: a randomized, controlled trial. *J Pediatr.* 2005;147:124-125. [comment]
8) **Davis MM.** Cost-effectiveness of conjugate meningococcal vaccination strategies in the United States. *J Pediatr.* 2005;147:407-408. [comment]
9) **Davis MM.** Acellular pertussis vaccine is protective for adolescents and adults. *J Pediatr.* 2006;148:417. [comment]
10) **Davis MM,** Patel MS, Halasyamani LK. Medicare prescription drug plan costs and affordability. *J Gen Intern Med.* 2007;available at: http://www.springerlink.com/content/a8v3r3712v7732v1/fulltext.pdf.
11) Patrick SW, Schumacher RE, **Davis MM.** Neonatal abstinence syndrome—reply. *JAMA.* 2012;308:762-764. [letter]

Research and Policy Briefs (non-peer reviewed)

1) **Davis MM,** Hibbard JH, Milstein A. Consumer tolerance for inaccuracy in physician performance ratings: one size fits none. Center for Studying Health System Change, Washington, DC: Issue Brief No. 110, March 2007. Available at: http://www.hschange.org/CONTENT/921/.
2) **Davis MM,** Singer DC, Clark SJ. More children expected to seek care at retail clinics. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 1, Issue 1, April 2007. Available at: http://www.med.umich.edu/mott/research/chearretailpoll.html
3) **Davis MM,** Singer DC, Clark SJ. Smoking, drugs, and obesity top public's list of health problems for children. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 1, Issue 2, May 2007. Available at:

http://www.med.umich.edu/mott/research/chearhealthconcernpoll.html

4) **Davis MM,** Singer DC, Clark SJ. Majority of parents not in favor of state HPV vaccine mandates. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 1, Issue 3, May 2007. Available at: http://www.med.umich.edu/mott/research/chearhpvvaccine.html
5) **Davis MM,** Tarini B, Singer DC, Clark SJ. DNA biobanks and genetic testing – for whom, and when? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 1, Issue 4, June 2007. Available at: http://www.med.umich.edu/mott/research/cheargenetictesting.html
6) **Davis MM,** Singer DC, Clark SJ. Covering families: how generous should SCHIP be? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 1, Issue 5, August 2007. Available at: http://www.med.umich.edu/mott/research/chearschip.html
7) **Davis MM,** Singer DC, Clark SJ. Flu vaccination among children may reach all-time high this year. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 2, Issue 1, October 2007. Available at: http://www.med.umich.edu/mott/research/chearflupoll.html
8) **Davis MM,** Singer DC, Clark SJ. Do high gas prices lead to less health care for kids? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 2, Issue 2, November 2007. Available at: http://www.med.umich.edu/mott/research/cheargascard.html
9) **Davis MM,** Singer DC, Clark SJ. Parental concerns about childhood obesity: time for a reality check? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 2, Issue 3, December 2007. Available at: http://www.med.umich.edu/mott/research/chearbmi.html.
10) **Davis MM,** Dempsey A, Singer DC, Clark SJ. Adolescent check-ups: parents want diet, drugs, and sex discussed. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 2, Issue 4, January 2008. Available at: http://www.med.umich.edu/mott/research/chearcheckup.html.
11) **Davis MM,** Singer DC, Clark SJ. Adults and kids less protected than anticipated against the flu. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 3, Issue 1, January 2008. Available at: http://www.med.umich.edu/mott/research/chearfluupdate.html.
12) **Davis MM,** Singer DC, Butchart A, Clark SJ. Nearly 70 million Americans using discount generic prescription drug programs. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 3, Issue 2, February 2008. Available at: http://www.med.umich.edu/mott/research/cheardgrxprogram.html.
13) **Davis MM,** Singer DC, Butchart A, Clark SJ. Child health threats: are consumer alerts enough? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 3, Issue 3, March 2008. Available at: http://www.med.umich.edu/mott/research/chearconsumeralerts.html.
14) **Davis MM,** Yoon EY, Singer DC, Butchart A, Clark SJ. Ask the doctor: Is my child's medicine FDA-approved? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 3, Issue 4, April 2008. Available at: http://www.med.umich.edu/mott/research/chearFDAapprovedmedicines.html.
15) **Davis MM,** Singer DC, Butchart A, Clark SJ. Children in research: many parents willing if risk of harm is small. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 3, Issue 5, May 2008. Available at: http://www.med.umich.edu/mott/research/chearChildrenInResearch.html.
16) **Davis MM,** Singer DC, Butchart A, Clark SJ. Summer safety for 'tweens' home alone. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 4, Issue 1, June 2008. Available at: http://www.med.umich.edu/mott/research/chearSummerSafety.html.
17) **Davis MM,** Singer DC, Butchart A, Clark SJ. Obesity tops list of biggest health problems for kids in 2008. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan.

Vol 4, Issue 2, July 2008. Available at: http://health.med.umich.edu/body.cfm?id=415.

18) **Davis MM,** Singer DC, Butchart A, Clark SJ. Retail clinics: an emerging source of health care for children. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 4, Issue 3, August 2008. Available at: http://health.med.umich.edu/body.cfm?id=480.
19) **Davis MM,** Singer DC, Butchart A, Clark SJ. Bullying worries parents of overweight and obese children. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 4, Issue 4, September 2008. Available at: http://health.med.umich.edu/home_npch.cfm?id=325.
20) **Davis MM,** Singer DC, Butchart A, Clark SJ. Who do voters prefer for children's health issues? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 5, Issue 1, October 2008. Available at: http://health.med.umich.edu/body.cfm?id=507.
21) **Davis MM,** Singer DC, Butchart A, Clark SJ. Knowledge key to support for embryonic stem cell research. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 5, Issue 2, October 2008. Available at: http://health.med.umich.edu/body.cfm?id=514.
22) **Davis MM,** Singer DC, Butchart A, Clark SJ. Parents of high school athletes speak out on performance-enhancing drugs. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 5, Issue 3, November 2008. Available at: http://health.med.umich.edu/body.cfm?id=521.
23) **Davis MM,** Singer DC, Butchart A, Clark SJ. Mental health services for children and adolescents: missed opportunities in primary care & barriers to specialty care. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 5, Issue 4, December 2008. Available at: http://health.med.umich.edu/body.cfm?id=529.
24) **Davis MM,** Singer DC, Butchart A, Clark SJ. For 12 million uninsured children, high barriers to dental care. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 5, Issue 5, February 2009. Available at: http://health.med.umich.edu/body.cfm?id=538.
25) **Davis MM,** Singer DC, Butchart A, Clark SJ. Private insurance in peril: millions of parents worried about costs, coverage. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 6, Issue 1, March 2009. Available at: http://health.med.umich.edu/body.cfm?id=547.
26) **Davis MM,** Singer DC, Butchart A, Clark SJ. Sweet danger – public links alcopops, underage drinking. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 6, Issue 2, April 2009. Available at: http://health.med.umich.edu/workfiles/npch/040609report.pdf.
27) O'Malley AS, Tynan A, Cohen G, Kemper NM, **Davis MM.** Coordination of care by primary care practices: strategies, lessons and implications. Center for Studying Health System Change, Research Brief No. 12. Available at: http://www.hschange.org/CONTENT/1058/1058.pdf.
28) **Davis MM,** Leo H, Singer DC, Butchart A, Clark SJ. Are schools doing enough for food-allergic kids? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 6, Issue 3, May 2009. Available at: http://health.med.umich.edu/home_npch.cfm?id=325.
29) **Davis MM,** Singer DC, Butchart A, Clark SJ. Bicycle helmet laws effective but not yet the norm. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 6, Issue 4, June 2009. Available at: http://health.med.umich.edu/home_npch.cfm?id=325.
30) **Davis MM,** Singer DC, Butchart A, Clark SJ. For kids, hard economic times mean more stress, fewer doctor visits. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 7, Issue 1, July 2009. Available at: http://health.med.umich.edu/body.cfm?id=586.
31) **Davis MM,** Singer DC, Butchart A, Clark SJ. Public concern rising about childhood obesity. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 7, Issue 2, August 2009. Available at: http://www.med.umich.edu/mott/npch/reports/publicconcern.htm.

32) **Davis MM,** Singer DC, Butchart A, Clark SJ. Healthy food choices: can schools improve their grades? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 7, Issue 3, August 2009. Available at: http://www.med.umich.edu/mott/npch/reports/foodchoice.htm.
33) **Davis MM,** Singer DC, Butchart A, Clark SJ. Parents pan school performance on bullying prevention. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 7, Issue 4, September 2009. Available at: http://www.med.umich.edu/mott/npch/reports/safeschool.htm.
34) **Davis MM,** Singer DC, Butchart A, Clark SJ. Parents may underestimate the risks of H1N1 flu for their children. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 8, Issue 1, September 2009. Available at: http://www.med.umich.edu/mott/npch/reports/h1n1.htm.
35) **Davis MM,** Singer DC, Butchart A, Clark SJ. Public to health care workers: get your H1N1 vaccine. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 8, Issue 2, October 2009. Available at: http://www.med.umich.edu/mott/npch/reports/flushot.htm.
36) **Davis MM,** Singer DC, Butchart A, Clark SJ. Internet predators, privacy and porn concern parents. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 8, Issue 3, November 2009. Available at: http://www.med.umich.edu/mott/npch/reports/internetsafety.htm.
37) **Davis MM,** Singer DC, Butchart A, Clark SJ. In age of 'sexting', parents weigh options to block inappropriate content. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 8, Issue 4, December 2009. Available at: http://www.med.umich.edu/mott/npch/reports/cellphone.htm.
38) **Davis MM,** Singer DC, Butchart A, Clark SJ. Health care provider recommendations key to H1N1 vaccination. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 9, Issue 1, January 2010. Available at: http://www.med.umich.edu/mott/npch/reports/h1h1vac.htm.
39) **Davis MM,** Singer DC, Butchart A, Clark SJ. Is the vaccine worse than the disease? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 9, Issue 2, February 2010. Available at: http://www.med.umich.edu/mott/npch/reports/h1n1immunization.htm.
40) **Davis MM,** Macy ML, Singer DC, Butchart A, Clark SJ. Many parents not using booster seats, unaware of state laws for kids 4-8 years old. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 9, Issue 3, March 2010. Available at: http://www.med.umich.edu/mott/npch/reports/boosterseat.htm.
41) **Davis MM,** Singer DC, Butchart A, Clark SJ. Speak or spank? More parents choose reasoning than physical discipline. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 9, Issue 4, April 2010. Available at: http://www.med.umich.edu/mott/npch/reports/spank.htm.
42) **Davis MM,** Singer DC, Butchart A, Clark SJ. "ePediatrics": Parents want more communication with their kids' doctors. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 9, Issue 5, May 2010. Available at: http://www.med.umich.edu/mott/npch/reports/communication.htm.
43) Clark SJ, Singer DC, Butchart A, **Davis MM**. Concussions in school sports: parents ill-prepared for role in reducing kids' risks. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 10, Issue 1, June 2010. Available at: http://www.med.umich.edu/mott/npch/reports/concussions.htm.
44) Tarini BA, **Davis MM,** Singer DC, Butchart A, Clark SJ. Most parents interested in at-home genetic testing for their kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of

Michigan. Vol 10, Issue 2, July 2010. Available at: http://www.med.umich.edu/mott/npch/reports/genetic.htm.

45) **Davis MM,** Singer DC, Butchart A, Clark SJ. Obesity, stress, teen pregnancy top children's health problems and getting worse. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 10, Issue 3, August 2010. Available at: http://www.med.umich.edu/mott/npch/reports/topten.htm.
46) **Davis MM,** Singer DC, Butchart A, Clark SJ. For e-cigarettes, public supports health warnings and ban on sales to minors. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 10, Issue 4, September 2010. Available at: http://www.med.umich.edu/mott/npch/reports/ecigaretts.htm.
47) **Davis MM,** Singer DC, Butchart A, Clark SJ. Parent views on medical research—safety of vaccines and medicines top priorities. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 11, Issue 1, October 2010. Available at: http://www.med.umich.edu/mott/npch/reports/medicalresearch.htm.
48) **Davis MM,** Singer DC, Butchart A, Clark SJ. Gun shy? 14 million parents have never talked gun safety with their kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 11, Issue 2, November 2010. Available at: http://www.med.umich.edu/mott/npch/reports/gunshy.htm.
49) **Davis MM,** Singer DC, Butchart A, Clark SJ. Strong public support for innovative programs to prevent teen pregnancy. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 11, Issue 3, January 2011. Available at: http://www.med.umich.edu/mott/npch/reports/pregnancy.htm.
50) **Davis MM,** Lewis TC, Hershenson M, Singer DC, Butchart A, Clark SJ. Tobacco: a smoking gun for kids' asthma attacks. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 11, Issue 4, January 2011. Available at: http://www.med.umich.edu/mott/npch/reports/smoking.htm.
51) **Davis MM,** Singer DC, Butchart A, Clark SJ. Despite warnings, parents continue to use cough and cold medicines for young kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 12, Issue 1, February 2011. Available at: http://www.med.umich.edu/mott/npch/reports/coldmed.htm.
52) **Davis MM,** Singer DC, Butchart A, Clark SJ. Parents wants explanations, not scare tactics, from the media about children's health. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 12, Issue 2, March 2011. Available at: http://www.med.umich.edu/mott/npch/reports/explanation.htm.
53) **Davis MM,** Singer DC, Butchart A, Clark SJ. Gym gone but not forgotten? Parents want more physical activity at school for kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 12, Issue 3, April 2011. Available at: http://www.med.umich.edu/mott/npch/reports/gym.htm.
54) **Davis MM,** Woolford SJ, Singer DC, Butchart A, Clark SJ. Bariatric surgery for teens: how young is too young? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 12, Issue 4, May 2011. Available at: http://www.med.umich.edu/mott/npch/reports/bariatric.htm.
55) **Davis MM,** Singer DC, Butchart A, Clark SJ. Few parents enforce shower-before-pool rules that prevent illness from water parks. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 13, Issue 1, June 2011. Available at: http://www.med.umich.edu/mott/npch/reports/watersafety.htm.
56) **Davis MM,** Singer DC, Butchart A, Clark SJ. Most parents unaware of research opportunities for their children. C.S. Mott Children's Hospital National Poll on Children's Health, University of

Michigan. Vol 13, Issue 2, July 2011. Available at: http://www.med.umich.edu/mott/npch/reports/researchopp.htm.

57) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Drug abuse now equals childhood obesity as top health concern for kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 13, Issue 3, August 2011. Available at: http://www.med.umich.edu/mott/npch/reports/topten2011.htm.

58) **Davis MM,** Biermann B, Marcus S, Hua L, Singer DC, Butchart A, Kauffman AD, Clark SJ. Parents say, "Other teens drink and use marijuana, but my kids don't." C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 13, Issue 4, September 2011. Available at: http://www.med.umich.edu/mott/npch/reports/substanceuse.htm .

59) Macy ML, **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Parents turning car seats to face forward too early. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 13, Issue 5, September 2011. Available at: http://www.med.umich.edu/mott/npch/reports/carseats.htm.

60) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Many young children off to a poor start with dental health. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 13, Issue 6, October 2011. Available at: http://www.med.umich.edu/mott/npch/reports/dentalhealth.htm.

61) **Davis MM,** Mohr B, Markman L, Singer DC, Butchart A, Kauffman AD, Clark SJ. Many infants at risk in unsafe sleep settings. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 13, Issue 7, November 2011. Available at http://mottnpch.org/reports-surveys/many-infants-risk-unsafe-sleep-settings.

62) Clark SJ, Sekhar DL, Singer DC, Butchart A, Kauffman AD, **Davis MM**. Silent risk: most parents and teens not talking about noise-induced hearing loss. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 14, Issue 1, December 2011. Available at: http://mottnpch.org/reports-surveys/silent-risk-most-parents-and-teens-not-talking-about-noise-induced-hearing-loss.

63) **Davis MM,** Rosen DS, Christner J, Singer DC, Butchart A, Kauffman AD, Clark SJ. School obesity programs may promote worrisome eating behaviors and physical activity. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 14, Issue 2, January 2012. Available at: http://mottnpch.org/reports-surveys/school-obesity-programs-may-promote-worrisome-eating-behaviors-and-physical-activity.

64) Clark SJ, Singer DC, Butchart A, Kauffman AD, **Davis MM**. Too much of a good thing? Kids in low-income families drink more juice than recommended. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 14, Issue 3, February 2012. Available at: http://mottnpch.org/reports-surveys/too-much-good-thing-kids-low-income-families-drink-more-juice-recommended.

65) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. For youth sexting: public supports education, not criminal charges. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 15, Issue 1, March 2012. Available at: http://www.mottnpch.org/reports-surveys/youth-sexting-public-supports-education-not-criminal-charges.

66) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Easy-access medicines a poisoning risk for kids at home. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 15, Issue 2, April 2012. Available at: http://www.mottnpch.org/reports-surveys/easy-access-medicines-poisoning-risk-kids-home.

67) Clark SJ, Singer DC, Butchart A, Kauffman AD, **Davis MM**. Pay-to-play sports keeping low-income kids out of the game. C.S. Mott Children's Hospital National Poll on Children's Health, University

of Michigan. Vol 15, Issue 3, May 2012. Available at: http://www.mottnpch.org/reports-surveys/pay-play-sports-keeping-lower-income-kids-out-game.

68) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Public wants Presidential candidates to address childhood obesity, bullying. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 16, Issue 1, June 2012. Available at: http://www.mottnpch.org/reports-surveys/public-wants-presidential-candidates-address-childhood-obesity-bullying.
69) Clark SJ, Singer DC, Butchart A, Kauffman AD, **Davis MM**. Public reluctant to support teen HPV vaccination without parental consent. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 16, Issue 2, July 2012. Available at: http://www.mottnpch.org/reports-surveys/public-reluctant-support-teen-hpv-vaccination-without-parental-consent.
70) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Top 10 child health concerns: exercixe, obesity, smoking lead list. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 16, Issue 3, August 2012. Available at: http://www.mottnpch.org/reports-surveys/top-10-child-health-concerns-exercise-obesity-smoking-lead-list.
71) **Davis MM,** Singer DC, Butchart A, Kauffman AD, Clark SJ. Bullying: when should schools take action? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 16, Issue 4, September 2012. Available at: http://www.mottnpch.org/reports-surveys/bullying-when-should-schools-take-action.
72) **Davis MM,** Hashikawa A, Singer DC, Butchart AT, Kauffman AD, Clark SJ. Sick kids, struggling parents. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 16, Issue 5, October 2012. Available at: http://www.mottnpch.org/reports-surveys/sick-kids-struggling-parents.
73) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Public supports expanded Internet safety requirements to protect kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 17, Issue 1, November 2012. Available at: http://www.mottnpch.org/reports-surveys/public-supports-expanded-internet-safety-requirements-protect-kids.
74) **Davis MM,** Lesperance M, Handelsman J, Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Parents loud and clear: test tweens and teens for hearing loss, too. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 17, Issue 2, December 2012. Available at: http://mottnpch.org/reports-surveys/parents-loud-and-clear-test-teens-and-tweens-hearing-loss-too.
75) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** Parents numb to misuse of narcotic pain medicines by youth? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 17, Issue 3, January 2013. Available at: http://mottnpch.org/reports-surveys/parents-numb-misuse-narcotic-pain-medicines-youth.
76) **Davis MM,** Udow-Phillips M, Riba M, Young D, Royan R. Primary care capacity and health reform: is Michigan ready? January 2013. Center for Healthcare Research and Transformation. Ann Arbor, MI. Available at: http://www.chrt.org/public-policy/policy-briefs/primary-care-capacity-and-health-reform-is-michigan-ready/.
77) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. How to select a child's doctor? Parents prefer grapevine to online. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 17, Issue 4, February 2013. Available at: http://mottnpch.org/reports-surveys/how-select-child%E2%80%99s-doctor-parents-prefer-grapevine-online.
78) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Just what the doctor ordered? Not

for many parents. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 18, Issue 1, March 2013. Available at: http://mottnpch.org/reports-surveys/just-what-doctor-ordered-not-many-parents.

79) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Parents ignore warning labels, give cough and cold meds to young kids. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 18, Issue 2, April 2013. Available at: http://mottnpch.org/reports-surveys/parents-ignore-warning-labels-give-cough-cold-meds-young-kids.

80) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. One in ten teens using "study drugs," but are parents paying attention? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 18, Issue 3, May 2013. Available at: http://mottnpch.org/reports-surveys/one-ten-teens-using-%E2%80%9Cstudy-drugs%E2%80%9D-are-parents-paying-attention.

81) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Protecting newborns from whooping cough. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 18, Issue 4, June 2013. Available at: http://mottnpch.org/reports-surveys/protecting-newborns-whooping-cough.

82) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Broad public support for banning smoking in vehicles with kids present. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 19, Issue 1, July 2013. Available at: http://mottnpch.org/reports-surveys/broad-public-support-banning-smoking-vehicles-kids-present.

83) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Top child health concerns: obesity, drug abuse, and smoking. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 19, Issue 2, August 2013. Available at: http://mottnpch.org/reports-surveys/top-child-health-concerns-obesity-drug-abuse-and-smoking.

84) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Top public priorities for children's health research: cancer, diabetes, birth defects. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 19, Issue 3, September 2013. Available at: http://mottnpch.org/reports-surveys/top-public-priorities-children%E2%80%99s-health-research-cancer-diabetes-birth-defects.

85) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** Email consultation: co-pay or no-pay? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 19, Issue 4, October 2013. Available at: http://mottnpch.org/reports-surveys/email-consultation-co-pay-or-no-pay.

86) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Medical research needs kids, but parents not aware of opportunities. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 19, Issue 5, November 2013. Available at: http://mottnpch.org.reports-surveys/medical-research-needs-kids-parents-not-aware-opportunities.

87) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Adults worry e-cigarettes will encourage kids to start smoking tobacco. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 20, Issue 1, December 2013. Available at: http://mottnpch.org/reports-surveys/adults-worry-e-cigarettes-will-encourage-kids-start-smoking-tobacco.

88) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** Seeing specialists: Roles of parents and providers unclear. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 20, Issue 2, January 2014. Available at: http://mottnpch.org/reports-surveys/seeing-specialists-roles-parents-providers-unclear.

89) **Davis MM,** Moniz MH, O'Connell LK, Kauffman AD, Singer DC, Gebremariam A, Clark SJ.

"Breast is best" but uninsured parents take breastfeeding classes less often. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 20, Issue 3, February 2014. Available at: http://mottnpch.org/reports-surveys/%E2%80%9Cbreast-best%E2%80%9D-uninsured-parents-take-breastfeeding-classes-less-often.

90) Clark SJ, Greenhawt M, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** Nut-free lunch? Parents speak out. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 20, Issue 4, March 2014. Available at: http://mottnpch.org/reports-surveys/nut-free-lunch-parents-speak-out.
91) **Davis MM,** Inniss AK, Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Screening out screen time: Parents limit media use for young children. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 21, Issue 1, April 2014. Available at: http://mottnpch.org/reports-surveys/screening-out-screen-time-parents-limit-media-use-young-children.
92) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Fighting childhood obesity: Are schools passing or failing? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 21, Issue 2, May 2014. Available at: http://mottnpch.org/reports-surveys/fighting-childhood-obesity-are-schools-passing-or-failing.
93) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** Sports physicals: convenient versus comprehensive? C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 21, Issue 3, June 2014. Available at: http://mottnpch.org/reports-surveys/sports-physicals-convenient-versus-comprehensive.
94) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** The circumcision decision: Parents want info, not directives, from docs. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 21, Issue 4, July 2014. Available at: http://mottnpch.org/reports-surveys/circumcision-decision-parents-want-info-not-directives-docs.
95) **Davis MM,** Kauffman AD, Singer DC, Gebremariam A, Clark SJ. School violence, gun-related injuries in top 10 child health concerns in U.S. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 22, Issue 1, August 2014. Available at: http://mottnpch.org/reports-surveys/school-violence-gun-related-injuries-top-10-child-health-concerns-us.
96) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, **Davis MM.** Head smart? Parents get confidence boost from concussion education. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 22, Issue 2, September 2014. Available at: http://mottnpch.org/reports-surveys/head-smart-parents-get-confidence-boost-concussion-education.
97) **Davis MM,** Woolford SJ, Kauffman AD, Singer DC, Gebremariam A, Clark SJ. Nutrition facts: how moms and dads view labels differently. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 22, Issue 3, October 2014. Available at: http://mottnpch.org/reports-surveys/nutrition-facts-how-moms-and-dads-view-labels-differently.
98) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, Matos-Moreno A, **Davis MM.** Parents support daycare policies to get kids up-to-date on vaccines. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 22, Issue 4, November 2014. Available at: http://mottnpch.org/reports-surveys/parents-support-daycare-policies-get-kids-date-vaccines.
100) **Davis MM,** Fredericks E, Kauffman AD, Singer DC, Gebremariam A, Matos-Moreno A, Clark SJ. Can their 18-year-olds make a doctor's appointment? Half of parents say no. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 22, Issue 5, December 2014. Available at: http://mottnpch.org/reports-surveys/can-their-18-year-olds-make-doctor%E2%80%99s-appointment-half-parents-say-no.
101) **Davis MM,** for the Michigan Department of Community Health. Recommendations for addressing

the needs of high utilizer / super utilizer patients in Michigan. Submitted to the Michigan Legislature, December 2014.

102) Clark SJ, Kauffman AD, Singer DC, Gebremariam A, Matos-Moreno A, **Davis MM.** Pay-to-play sports keeping some kids on the sidelines. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 22, Issue 6, January 2015. Available at: http://mottnpch.org/reports-surveys/pay-play-sports-keeping-some-kids-sidelines.

103) **Davis MM,** Kauffman AD, Singer DC, Matos-Moreno A, Clark SJ. Parents conflicted about later school start times for teens. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 23, Issue 1, February 2015. Available at: http://mottnpch.org/reports-surveys/parents-conflicted-about-later-school-start-times-teens.

104) Clark SJ, Kauffman AD, Singer DC, Matos-Moreno A, **Davis MM.** Parents on social media: likes and dislikes of sharenting. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 23, Issue 2, March 2015. Available at: http://mottnpch.org/reports-surveys/parents-social-media-likes-and-dislikes-sharenting.

105) **Davis MM,** Kauffman AD, Singer DC, Matos-Moreno A, Clark SJ. Support for medical marijuana use lower for kids than for adults. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 23, Issue 3, April 2015. Available at: http://mottnpch.org/reports-surveys/support-medical-marijuana-use-lower-kids-adults.

106) Clark SJ, Kauffman AD, Singer DC, Matos-Moreno A, **Davis MM.** Many parents missing the link between child behavior and health. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 23, Issue 4, May 2015. Available at: http://mottnpch.org/reports-surveys/many-parents-missing-link-between-child-behavior-and-health.

107) **Davis MM,** Kauffman AD, Singer DC, Matos-Moreno A, Clark SJ. Too convenient? Majority of adults support bans on powdered alcohol. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 24, Issue 1, June 2015. Available at: http://mottnpch.org/reports-surveys/too-convenient-majority-adults-support-bans-powdered-alcohol.

108) **Davis MM,** Kauffman AD, Singer DC, Matos-Moreno A, Clark SJ. Safer, with more benefits: parents' views on vaccines shifting. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 24, Issue 2, July 2015. Available at: http://mottnpch.org/reports-surveys/safer-more-benefits-parents%E2%80%99-vaccines-views-shifting.

109) **Davis MM,** Kauffman AD, Singer DC, Matos-Moreno A, Clark SJ. Top 10 child health problems: more concern for sexting, Internet safety. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 24, Issue 3, August 2015. Available at: http://mottnpch.org/reports-surveys/top-10-child-health-problems-more-concern-sexting-internet-safety.

110) Clark SJ, Kauffman AD, Singer DC, Matos-Moreno A, **Davis MM.** Parents conflicted about how to label, punish cyberbullying. C.S. Mott Children's Hospital National Poll on Children's Health, University of Michigan. Vol 24, Issue 4, September 2015. Available at: http://mottnpch.org/reports-surveys/parents-conflicted-about-how-label-punish-cyberbullying.

Opinion/Editorial Publications in Lay Press (non-peer-reviewed)

1) **Davis MM.** Expanding kids' care won't socialize medicine. *The Detroit News.* October 10, 2007.
2) Osta AD, **Davis MM.** 'Going green' means gasping for air. *The Detroit News.* January 9, 2008.
3) Tarini BA, **Davis MM.** Laws won't erase genetic dilemmas. *The Detroit News.* May 28, 2008.
4) **Davis MM.** Use Michigan's existing tobacco laws to cover e-cigarettes. *The Detroit Free Press.* May 6, 2014.

Eric P. Rothstein, CPA

Principal

Education

MA, Economics, University of California-Davis, 1983
A.B., Economics, Ripon College, 1981

Distinguishing Qualifications

- Experienced Project Manager that has established strategic financial plans and designed rates for some of the nation's largest, most complex infrastructure programs and has secured acceptance of major, multi-year rate increases in politically charged environments.
- Expert in regionalization, facilitation of complex decisions affecting diverse stakeholder groups, evaluation of public/private partnerships, and strategic business planning.
- National leadership roles in the water industry including the Water Environment Federation (WEF) Utility Management Committee and American Water Works Association's (AWWA) Competitive Practices and Rates and Charges Committees.

Expert Witness Depositions and Testimony

- Direct Testimony by Declaration (2014) - Superior Court Of California, County of Los Angeles, Central District, Cities of Cerritos, Downey and Signal Hill vs. Water Replenishment District of Southern California, Lead Case No. Bs128136
- Expert Witness Testimony (2013) – Nova Scotia Utility and Review Board: In the Matter of a Joint Application by the Halifax Regional Water Commission and the Halifax-Dartmouth Bridge Commission for a Determination of Appropriate Charges Related to the Use of the Angus L. Macdonald. (M06127)
- Expert Report (2013) - San Diego County Water Authority v. Metropolitan Water District of Southern California, Case No: CPF-10-510830 and CPF-12-512466, Superior Court of California, County of San Francisco, regarding rate setting challenges.
- Expert Witness Testimony (2013) –Hawaii Public Utilities Commission, In the Matter of the Application of Hawaiian Beaches Water Company, Inc., for review and approval of rate increases; revised rate schedules, Docket No. 2013-0203.
- Deposition And Expert Witness Testimony (2013): United States Bankruptcy Court, Northern District Of Alabama, Southern Division, In Re: Jefferson County, Alabama, a political subdivision of the State Of Alabama, Debtor, Case No.: 11-05736-Tbb, Chapter 9, The Bank Of New York Mellon as Indenture Trustee, et al., Plaintiffs v. Jefferson County, Alabama, Defendant, AP No.: 12-00016-Tbb,
- Expert Witness Testimony (2013) – Nova Scotia Utility and Review Board: Application for the Approval of a Schedule of Rates and Charges and Schedule of Rules and Regulations for the Delivery of Water, Wastewater and Stormwater Services, Matter No. M05463

- Expert Witness Testimony (2012) - Public Service Commission of Wisconsin: Application of City of Waukesha Water Utility, Waukesha County, Wisconsin, for Authority to Increase Water Rates Docket No. 6240-WR-107

- Expert Witness Testimony (2009-2011) – United States District Court, Northern District of Georgia, Atlanta Division, United States of American and the State of Georgia, Plaintiffs v. The City of Atlanta, Defendant, Civil Action File No. 1-98-CV-1956-TWT. (various hearings re: Schedule Extension, Service Delivery Strategy)

- Expert Witness Testimony (2012) – Public Service Commission of Wisconsin: Application of Oak Creek Water and Sewer Utility For Authority to Increase Water Rates, Docket No. 4310-WR-104

- Expert Witness Testimony (2011) – Nova Scotia Utility and Review Board: Application of the Halifax Regional Water Commission for approval of a Cost of Service and Rate Design Methodology (NSUARB-W-HRWC-R-11)

- Expert Witness Testimony (2010, 2014) – Public Service Commission of Wisconsin: Application of Milwaukee Water Works, Milwaukee Water Works, Milwaukee County for Authority to Increase Water Rates, Docket No. 3720-WR-107 and Docket No. 3720-WR-108

- Deposition (2010): The Bank of New York v. Jefferson County, Alabama, Civil Action No. CV-2009-02318.
- Expert Witness Testimony (2009) – Illinois Commerce Commission, Illinois-American Water Company, Proposed general increase in water and sewer rates, Docket No: 07-0507

- Expert Witness Testimony (2009) - In the Court of Appeals of Georgia; Fulton County Georgia et al. v. City of Atlanta, A08A2364

Selected Key Project Experience

For the U.S. Bankruptcy Court, Eastern District of Michigan, Southern Division Eric Rothstein has served as an independent utility advisor for mediation related to the creation of the Great Lakes Water Authority (GLWA). Following execution of a Memorandum of Understanding and Articles of Incorporation by the Incorporating Municipalities (City of Detroit, Macomb, Oakland and Wayne counties, and the State of Michigan), Mr. Rothstein was appointed to serve as Implementation Planning Program Manager for the standup of the GLWA – a regional utility serving approximately 40% of the population of the State of Michigan.

For **Water Replenishment District of Southern California**, Eric Rothstein was engaged to provide an expert report related to the consistency of the District's rate setting requirements with industry-standard practices contemplating proportionate distribution of cost responsibilities based on cost causation. These practices are consistent with prescripts of State of California law.

For Jefferson County, Alabama, Eric Rothstein has served as the County's rate consultant since 2010. He has reviewed cost-of service analyses and alternative rate proposals to address the County's outstanding sewer warrant obligations, developed revisions to its sewer rates approved in November 2012, and again in September 2013, and is leading strategic financial planning related to the County's bankruptcy Plan of Adjustment. Mr. Rothstein has been deposed and provided expert witness testimony in various court proceedings stemming from the County's declaration of bankruptcy in 2011, and has led development of a Municipal Advisor Report related to a planned Series 2013 Sewer Warrant issue to effectuate the County's exit from bankruptcy.

For the **Halifax Regional Water Commission**, Eric Rothstein led development of a Cost of Service and Rate Design report to the Nova Scotia Utility and Accounting Review Board (NSUARB Docket No. NSUARB-W-

HRWC-R-11), in response to the Board's Order and Decision to hold separate hearings to determine appropriate ratemaking methodologies for Canada's first regulated water, wastewater and stormwater utility. Eric led preparation of the report and the development of cost allocation and rate design models to illustrate the implications of alternative methodological approaches. Eric supported development of HRWC's subsequent application for water, wastewater and stormwater rates filed with the NSUARB in December 2012 and provided expert witness testimony in support thereof in April 2012. In April 2014, Eric prepared a HRWC Cost Shares for Use of the Angus L. Macdonald Bridge and provided expert witness testimony in M06127 - Halifax-Dartmouth Bridge Commission/Halifax Regional Water Commission: Waterline on the Angus L. MacDonald Bridge - HDBC-G-14

For the **City of Atlanta**, since 2004, Mr. Rothstein has served as the Department of Watershed Management's primary coordinator for its revenue bond issues used to finance its $3 billion wastewater Consent Decree program. This has included issues in 2004, 2008, 2009 (2), 2013 and 2015 and, in 2006, implementation of its Tax-Exempt Commercial Paper program with a shelf registration of $1.2 billion. Mr. Rothstein led development of the Department's *Financial Capability Based Schedule Extension Request Report* used to secure the City's 13-year extension of its wastewater Consent Decree schedule. He prepared each of the Department's Financial Capability Assessment filings. He has led the development and updating of strategic financial planning tools for water and sewer rate development and policy-level consideration of overall program financing strategies (as well as detailed project expenditure, status, and schedule tracking).

For the **Egyptian Ministry of Housing, through a USAID contract**, Mr. Rothstein developed guidance on tariff setting, capital project prioritization, and strategic planning for the newly established water and wastewater sector regulatory agency. The project involved the development of a guidance manual, detailed financial planning and cost-of-service analysis modeling, and testing of financial analysis and prioritization tools with four major Egyptian utilities. Mr. Rothstein has also provided presentations on financial planning and strategic planning principles to USAID staff and Technical Assistance contractors.

For the **Milwaukee Wholesale Customers**, through sub-contracts with SHEH, Inc., Mr. Rothstein reviewed the Milwaukee Water Works rate increase applications filed in 2010 and 2014, reviewed pre-filed testimony, and offered expert witness testimony related to revenue requirements and appropriate rates of return at hearings before the Wisconsin Public Service Commission.

For several wastewater permittees facing Consent Decrees including the **City of Akron, East Bay Municipal Utility District, Northeast Ohio Regional Sewer District, Metropolitan Sewer District of St. Louis, and the City and County of Honolulu**, Mr. Rothstein has assisted in the conduct of financial capability assessments per EPA prescribed methodologies and in the development of alternative approaches to assessment that more appropriately reflect utility capital financing options. These efforts have been used in the formulation of negotiation positions related to the scope and schedule of potential Consent Decree provisions. Mr. Rothstein is currently engaged with the **City of Peoria, IL** and with the **Guam Waterworks Authority**, in similar Consent Decree negotiations.

For the **National Association of Clean-Water Agencies**, Mr. Rothstein has served as Principal Author for the development of several of the association's white papers and publications related to Financial Capability Assessments used to develop wastewater Consent Decree schedules. These publications include NACWA's *Financial Capability and Affordability in Wet Weather Negotiations* (2007), and *The Evolving Landscape for Financial Capability Assessment: Clean Water Act Negotiations and the Opportunities of Integrated Planning* (2013). These papers provide critical reviews of the U.S. Environmental Protection Agency's (EPA's) established policies and guidance on financial capability assessments for wet weather programs and offers practical guidance for negotiations on enforcement policies and practices related to consideration of financial capability.

For the **City of Winnipeg, Manitoba**, Mr. Rothstein served as Project Manager for a comprehensive cost-of-service rate studies for the City's water, wastewater and stormwater systems conducted in 1997 and 2012. In 1997, the consulting team facilitated decision-making through an extensive public involvement process that featured monthly meetings of a Citizen's Advisory Committee comprised of a diverse set of stakeholder representatives. For both studies, detailed cost allocation analyses were conducted and customized computer rate analysis models developed to facilitate rate updating for budgetary changes, revision to cost allocations, and rate design modifications.

For **Augusta-Richmond County, Georgia,** Mr. Rothstein has provided strategic financial planning, bond feasibility and comprehensive cost-of-service rate assistance since 2000. Strategic financial planning facilitated the City's adoption of a seven-year, 11 percent per annum rate increase schedule to support infrastructure re-investment in excess of $400 million. Mr. Rothstein managed 3 bond feasibility studies over the course of the program implementation, helping the County to secure strong credit ratings and favorable financing. A cost-of-service study in 2004 involved special queries of a new billing system for development of user characteristic data and consideration of specific cost assignments for previously unsewered portions of the County's wastewater system.

Previous to his work as a utility management consultant, Mr. Rothstein served in several financial management positions for the **City of Austin, Texas**. In this capacity, he directed staffs of up to 22 members in utility ratemaking, evaluation of regionalization alternatives and proposed utility investments, analysis of capital financing options, internal control evaluation, and revenue forecasting.

Certifications / Professional Licenses

Certified Public Accountant
Oregon License No. 7998, June 1995

Membership in Professional Organizations

American Water Works Association

- Strategic Management Practices Committee
- Rates and Charges Sub-Committee
    - Chair, *Water Rate Structures and Pricing*, AWWA M34
    - Member, *Water Rates*, AWWA, M1

International Water Association

- Economics and Statistics Specialist Group
- Editorial Board, Utility Management International (2008-2012)

National Association of Clean Water Agencies

- Utility Management Committee

Water Environment Federation

- Utility Management Committee
    - Chair, Finance and Administration Sub-Committee
    - Chair, *Financing and Charges for Wastewater Systems* (M27), Manual of Practice Task Force
    - Coordinator, Asset Management Hot Topics Workshops, 2005 – 2007
- Technical Practice Committee, Vice Chair

Selected Publications

Sustainability Reporting Statements for Wastewater Systems, WEF Special Publication, October 2012 (Task Force Chair, Chapter 1 Author)

"The Business Case for Low Income Affordability Programs," Proceedings of the AWWA-WEF Utility Management Conference, Miami, FL, February 2012.

GBMSD's Strategic Planning: A Portfolio Management Approach to Effective Utility Management" with Tom Sigmund, Proceedings of the AWWA-WEF Utility Management Conference, Miami, FL, February 2012.

"Financial Sustainability in an Uncertain World" with Debbie Galardi, *Water Utility Management International*, vol. 6, issue 4 (December 2011) pp. 23-27.

"Developing A Financially Sustainable Capital Program to Meet Consent Decree Requirements", *Proceedings of the Water Environment Federation Technology Exposition and Conference (WEFTEC), October 2009*

"Regionalization of Water Service in Central Florida: Capacity Rights Contracting for the Yankee Lake WTF", *Proceedings of the American Water Works Association (AWWA) Annual Conference and Exposition, June 2007 and the Florida Water Resources Conference,* April 2007

"Affordability Tools," Section 8: *Affordability Special Publication*, Water Environment Federation, 2007

"Tough Choices in Paradise: Capital Project Prioritization on Oahu," with Ross Kaneko, Barry Usagawa, Scott Muraoka and Jason Takaki, *Proceedings of the American Water Works Association (AWWA) – Water Environment Federation (WEF) Joint Management Conference*, February 2007 and *Proceedings of the American Water Works Association (AWWA) Annual Conference and Exposition*, June 2007.

"Financial Sustainability As A Foundation For Infrastructure Development And Management: Best Practices" with Debbie Galardi, Water Utility Management International, vol. 2, issue 1 (March 2007) pp. 10-13

Selected Presentations / Seminars

"Exit from Bankruptcy: Jefferson County, Alabama's Historic Plan of Adjustment and $1.7 Billion Sewer Warrant Issue Sustainability Reporting Statements for Wastewater Systems", Utility Management Conference, Austin, TX, February 2015.

"The Business Case for Sustainability Reporting", Sustainability Reporting Statements for Wastewater Systems Special Publication Workshop, WEFTEC 2013, October 2013.

"Building Support for Rate Increases" Central States Water Environment Federation, May 17, 2013

"Which Direction is Your Utility Heading", 2012 Illinois City Managers Association, Galena, Illinois, June 28, 2012

"Financial Sustainability in an Uncertain World", Illinois AWWA, March 2012

"Doing More With Less: Financial Planning and Management in Stressful Times", Central States Water Environment Federation Wisconsin Government Affairs Seminar, February 23, 2012

"Financing Water Utilities' Sustainability Initiatives: Challenging Institutionalized Governance and Market Failures" with Debbie Galardi, Proceedings of the 2012 AWWA Water Sustainability Conference, Portland, Oregon, March 2012.

"Building Support for Rate Increases", 2012 Central States Water Environment Association (CSWEA) Government Affairs Seminar, Madison, WI, February 2012.

"A Season on The Brink: Atlanta's Financial Capability Based Consent Decree Extension" presented at the 2011 AWWA-WEF Utility Management Conference, Denver, CO, February 2011.

"Making Wet Weather Affordable: Never Let A Good Crisis Go To Waste", National Association of Clean Water Agencies Winter Conference, Fort Lauderdale, FL, January 2011.

"Water Efficiency Programs: Risk Management for an Uncertain World", Wisconsin Water Association Conservation Seminar, September 2011.

"Financial Capability Assessment Revisited: Structuring Consent Decrees To Recognize Capital Financing Constraints And Market Change" presented at the 2010 AWWA-WEF Utility Management Conference, San Francisco, CA, February 2010.

"Rock River Water Reclamation District Strategic Financial Planning", Illinois Association of Wastewater Agencies, September 17, 2009

"Socially Responsible Investment in Water Quality: Balancing Community Priorities and Pricing", American Water Works Association Annual Conference and Exposition, Atlanta, GA, June 2009.

"Adaptive Financial Management", CSO Partnership, Chicago, April 2009

"Capital Financing Strategies and Constraints: Lessons of the Political Economy ", National Association of Clean Water Agencies Winter Conference, Atlanta, GA, February 2009.

"Atlanta's Water and Wastewater System Financing: An Update", American Water Works Association Annual Conference and Exposition, Atlanta, GA, June 2008.

"Inside/Outside Rates: Forthcoming Refinements in the M1 Manual", American Water Works Association Annual Conference and Exposition, Atlanta, GA, June 2008.

"Financial Capability Assessments & Affordability: Implications of EPA Criteria", American Water Works Association Annual Conference and Exposition, June 2007

"Proven Financial Management Fundamentals Demonstrated Through National & International Case Studies" presented at the Illinois Section, American Water Works Association conference, Springfield, IL, March 2007

"National Trends Define Strategic Planning Imperatives," presented at the Wisconsin Section, American Water Works Association conference, Wisconsin Dells, WI, September 2006, and Wisconsin Water Environment Association Government Affairs seminar, Madison, WI, March 2007.

"Financial Capability and the Cost of Clean" presented at the National Association of Clean Water Agencies, Winter Conference, St. Petersburg, FL; February 2007.

To: Governor Rick Snyder
From: JA
Re: Flint After Action Meeting
Date: October 20, 2015

Governor,

Attached is a draft press release to be reviewed with the after action team tomorrow morning.

In addition, Rich & Harvey are vetting & reaching out to potential Flint resident to join the task force:

1) Dr. Lawrence Reynolds, MD of Mott Children's Hospital, long standing and respected member of the Flint community, speaks his mind and very professional.

Rich will invite him to the meeting tomorrow by phone or in person.

Attached are resumes for Kolb, Dr. Davis, and Eric Rothstein.

Draft Agenda:

1) Introductions
2) Mission of Task Force
3) Background Info
4) Discussion of Timeline
5) Q & A from Task Force Members
6) Communications Strategy/Review Press Release

Suggested Goals for Task Force:

1) Thorough review of all steps taken in Flint regarding switch to Flint River and back GLWA.
    a. Create Timeline of actions
    b. Establish why each action was taken
2) Review of role of Feds, EM, State, City Council, and Mayor in process.
    a. Establish best practices for Feds, State, Local, and EM to work together in future situations
    b. Indicate where coordination could have been and should be improved
3) Review of DEQ & DHHS actions & protocols
    a. Did DEQ & DHHS follow the proper procedures?
    b. Do the procedures need to change?
4) Provide guidance for switch back to GWLA
    a. Ensure proper corrosion controls & testing is in place
    b. Highlight steps for eventual switch to Karegnondi
5) Testing Beyond Flint
    a. What practices need to change in communities outside of Flint?
    b. What change in law is recommended to ensure all Michiganders are drinking clean water?

Suggested Timeline:

The task force members have indicated that 2 months is the earliest possible time to properly conduct a full after action report. In reality, they suggest 3 months is more feasible. Given the holidays, a 2 month timeline puts us roughly right around Christmas. I would suggest we set a 3 month goal.

Oct 21: After Action Team Announced
Jan 8: Preliminary After Action Report Submitted for Internal Review
Jan 22: Final After Action Report Submitted
Week of January 25: Report Released

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

Contacts: Sara Wurfel or Dave Murray 517-335-6397	**FOR IMMEDIATE RELEASE** Wednesday, Oct. 21, 2015

Gov. Rick Snyder announces formation of Flint Water After Action Report Commission

Experts will provide ongoing monitoring of city water system

LANSING, Mich. – Gov. Rick Snyder today announced a new task force to review the state's actions regarding water usage and testing in Flint. The commission will conduct a thorough review and lay out recommendations on future guidelines for water testing. It will also monitor the transition of Flint's city water system back to the Great Lakes Water Authority, and its eventual transition to the Karegnondi Water Authority pipeline.

The commission will be co-chaired by Ken Sikkema of Public Sector Consultants and Chris Kolb, of the Michigan Environmental Council. Also serving will be Dr. Matthew Davis of the University of Michigan Health System, and Eric Rothstein, of the Galardi Rothstein Group.

"As stated previously, transitioning back to the Great Lakes Water Authority is a good first step to protecting public health in Flint, but it's not the last step," Snyder said. "Bringing in outside experts to evaluate our actions and help monitor and advise on technical issues will be key to continuing work on the comprehensive action plan and ensuring safe drinking water for all the citizens of Flint."

Ken Sikkema is a senior policy fellow at Public Sector Consultants, where he specializes in public finance, environment, and energy policy. Prior to joining the firm, Sikkema served in both the Michigan House and Senate, culminating with four years as Senate Majority Leader. He has also served as both an adjunct and visiting professor at Grand Valley State University.

Chris Kolb is president of the Michigan Environmental Council, a statewide coalition of 70 environmental, public health and faith-based nonprofit groups. Before joining the MEC, Kolb represented Ann Arbor in the state House for six years and served eight years on the Ann Arbor City Council. He has been president of the MEC for eight years.

Matthew Davis, M.D., M.A.P.P., is Professor of Pediatrics and Internal Medicine at the University of Michigan Health System and Professor of Public Policy at the Gerald R. Ford School at the University of Michigan, having joined the faculty in 2000. He is the founding Director of the C.S. Mott Children's Hospital National Poll on Children's Health and the National Voices Project. Dr. Davis also previously served as the Chief Medical Executive of the Michigan Department of Community Health/Department of Health and Human Services.

Eric Rothstein is a national water issues consultant and principal at the Galardi Rothstein Group. He served as an independent advisor on the creation of the Great Lakes Water Authority. Rothstein also has served as Jefferson County, Alabama's rate consultant and municipal advisor for litigation related to the county's bankruptcy and issuance of $1.7 billion in sewer warrants and led strategic financial planning for the City of Atlanta's Department of Watershed Management. He has more than 30 years of experience in water, wastewater and stormwater utility finance and rate-making assessments.

As Gov. Snyder previously stated, reconnecting with the authority will not completely resolve the city's problem with lead service lines or aging infrastructure. It will take time for pipes in Flint to become coated with the phosphate corrosion control.

To best protect public health, state and local authorities will continue to carry out steps outlined on Oct. 2 in a comprehensive action plan, including continued testing, the use of faucet filters and providing residents with accurate information about steps to eliminate lead exposure. The Michigan Departments of Environmental Quality is continuing to provide free water filters, free lead testing through the state laboratory for Flint water customers, and hiring additional staff to conduct health exposure monitoring for lead in drinking water.

####

Subject:	DWRF Program in Flint
Location:	DEQ-Directors-Conference-Room
Start:	Thu 12/3/2015 8:30 AM
End:	Thu 12/3/2015 9:30 AM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	Feuerstein, Heather (DEQ)
Required Attendees:	Wyant, Dan (DEQ); Sygo, Jim (DEQ); Pallone, Maggie (DEQ); Shekter Smith, Liane (DEQ); Butler, Sonya (DEQ); Krisztian, George (DEQ)
Optional Attendees:	Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ); Devereaux, Tracy Jo (DEQ)

Message

From: Gadola, Michael (GOV) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=GADOLAM]
Sent: 3/15/2012 9:51:34 PM
To: Wyant, Dan (DEQ) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=WyantD1]; Dillon, Andy (Treasury) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DillonA2]; Muchmore, Dennis (GOV) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=Muchmored]
CC: Seaks, Lynn (GOV) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=SeaksL]
Subject: RE: March 21, 2012 DWSD Meeting

Stevenson.

From: Wyant, Dan (DEQ)
Sent: Thursday, March 15, 2012 1:51 PM
To: Gadola, Michael (GOV); Dillon, Andy (Treasury); Muchmore, Dennis (GOV)
Cc: Seaks, Lynn (GOV)
Subject: RE: March 21, 2012 DWSD Meeting

Yes, Peter and his staff Pam will plan to participate. Pam (don't know her last name) has worked on this case for 17 years.

Dan Wyant, Director

Department of Environmental Quality

517-373-7917

From: Gadola, Michael (GOV)
Sent: Thursday, March 15, 2012 11:32 AM
To: Wyant, Dan (DEQ); Dillon, Andy (Treasury); Muchmore, Dennis (GOV)
Cc: Seaks, Lynn (GOV)
Subject: FW: March 21, 2012 DWSD Meeting

Attorney-Client Privilege

From: Monticello, Frank (AG)
Sent: Thursday, March 15, 2012 10:39 AM
To: Gadola, Michael (GOV)
Subject: FW: March 21, 2012 DWSD Meeting

Attorney-Client Privilege

Frank

From: Manning, Peter (AG)
Sent: Thursday, March 15, 2012 10:15 AM
To: Isaacs, Carol (AG); Ianni, Robert (AG); Monticello, Frank (AG)
Cc: Stevenson, Pamela (AG)
Subject: FW: March 21, 2012 DWSD Meeting

Attorney Work Product Privilege/Mediation

From: Sygo, Jim (DEQ)
Sent: Wednesday, April 17, 2013 2:11 PM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Fwd: KWA and City of Flint

Director, this is Steve's analysis which concurs with Bill's staff.
Flint should go with KWA

Sent from my iPhone

Begin forwarded message:

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
Date: April 17, 2013, 9:51:13 AM EDT
To: "Sygo, Jim (DEQ)" <SygoJ@michigan.gov>, "Shekter Smith, Liane (DEQ)" <SHEKTERL@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
Cc: "Shaler, Karen (DEQ)" <SHALERK@michigan.gov>, "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>, "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>
Subject: RE: KWA and City of Flint

Director Wyant, Deputy Director Sygo, and Liane,

A response at this point may be moot as Flint and Genesee Co. already held a press conference yesterday rejecting the DWSD offer.

It is also unclear whether DWSD provided its offer directly to Flint and Genesee Co. by the deadline in Treasurer Dillon's letter. However, Flint and Genesee Co. still took the offer under consideration.

Our office concurs with both Flint and Genesee Co. that the offers provided by DWSD were incomplete.

Of the two scenarios provided by DWSD it appeared that only Scenario 2 was listed as potentially being more cost effective. However, this scenario did not address the following:

1. The DWSD scenarios are based on 40 MGD of service capacity. However, the KWA project is providing 60 MGD of initial capacity with potential expansion to 75 MGD in the future. Therefore, in order for a more direct comparison the DWSD scenario would need to increase capacity to 60 MGD, which would increase fixed rate commodity costs as well as the capital costs for the Huron Plant that DWSD was planning to allocate to Flint and Genesee Co., presumably by as much as 50%.

2. DWSD proposals cover a 30 year period to 2042, but fail to recognize that after this period bond payments for the KWA project will be complete and result in a significant reduction in costs for the KWA option.

3. While DWSD indicates that Flint and Genesee Co. would be given "broadened representation", it remains unclear exactly what this means in terms of actual control in the decision making process.

4. This scenario continues to rely on a single transmission system and would require the City of Flint to maintain its WTP for emergency purposes and these costs do not appear to be included. In addition, use of the Flint WTP as an emergency backup would leave Genesee Co. without an adequate backup supply to meet their 30 year needs.

Again, without DWSD providing the specific details of these proposals, it is difficult to provide a true comparative analysis, and as such Flint and Genesee Co. appear to be justified in their rejection of these proposals.

Please let me know if you require any further response.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Sygo, Jim (DEQ)
Sent: Tuesday, April 16, 2013 9:59 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Shekter Smith, Liane (DEQ); Shaler, Karen (DEQ); Thelen, Mary Beth (DEQ)
Subject: FW: KWA and City of Flint

Steve, Mike and Richard,

Please take a look at DWSD's last best offer to the City of Flint and provide your collective perspective to the Director through Liane by the end of the week. Copy me in as well. I'll be out of the office but would like to know if you think this is worth considering.

Thank you for your expedited review.

From: Wyant, Dan (DEQ)
Sent: Tuesday, April 16, 2013 6:52 AM
To: Sygo, Jim (DEQ)
Subject: FW: KWA and City of Flint

Jim,

Liane is out of the office today, Can you forward this directly to her staff that worked on this with us.

Dan Wyant, Director
Department of Environmental Quality
517-373-7917

From: Wyant, Dan (DEQ)
Sent: Tuesday, April 16, 2013 6:51 AM
To: Sygo, Jim (DEQ); Creal, William (DEQ); Shekter Smith, Liane (DEQ)
Cc: Anderson, Madhu (DEQ)
Subject: FW: KWA and City of Flint

Bill and Liane,

Can you have your staff's take a quick look at this and let me know today if they think this changes their thoughts and comments to me last week.

Dan Wyant, Director
Department of Environmental Quality
517-373-7917

From: Dillon, Andy (Treasury)
Sent: Monday, April 15, 2013 7:55 PM
To: Wyant, Dan (DEQ); Dennis Muchmore; Roberts, John (GOV)
Cc: Stibitz, Brom (Treasury); Saxton, Thomas (Treasury)
Subject: Fwd: KWA and City of Flint

FYI

Dan, any thoughts re the attached?

We gave dwsd until today to put best offer on table. Flint is to get back to us tmrw. I want to make sure their expected rejection is made in good faith.

Sent from my iPad

Begin forwarded message

> **From:** "Debra Ragland" <dragland@dwsd.org>
> **To:** "ekurtz@cityofflint.com" <ekurtz@cityofflint.com>
> **Cc:** "jwright@co.genesee.mi.us" <jwright@co.genesee.mi.us>, "Dillon, Andy (Treasury)" <DillonA2@michigan.gov>, "James Fausone" <fausone@dwsd.org>, "orrk@detroitmi.gov" <orrk@detroitmi.gov>, "Sue McCormick" <mccormick@dwsd.org>
> **Subject: KWA and City of Flint**
>
> Please see attached on behalf of Sue F. McCormick.
>
> Faxed copy forwarded to Mayor Dayne Walling and Jeff Wright.

Subject: FW: Time TBD - KWA & DWSD Meeting
Location: Governor's SE MI Office

Start: Fri 4/19/2013 3:00 PM
End: Fri 4/19/2013 4:30 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: GovCalendar

-----Original Appointment-----
From: GovCalendar
Sent: Wednesday, April 17, 2013 3:58 PM
To: GovCalendar; Hichez, Amy (Treasury); Muchmore, Dennis (GOV); Wisniewski, Wendy (GOV); Rustem, William (GOV); Brader, Valerie (GOV)
Subject: Time TBD - KWA & DWSD Meeting
When: Friday, April 19, 2013 3:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Governor's SE MI Office

AD/DM?/BR?/VB?/Orr, Kurtz, DWSD, KWA and talk the situation through

Needs to be Friday or not at all

Appointment

From: Thelen, Mary Beth (DEQ) [/O=MIGOV/OU=FIRST ADMINISTRATIVE GROUP/CN=RECIPIENTS/CN=THELENM2]
Sent: 4/18/2013 7:25:12 PM
To: Wyant, Dan (DEQ) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=WyantD1]
Subject: FW: RDS/GT/VB - KWA & DWSD (Water) Meeting
Location: Governor's SE MI Office
Start: 4/19/2013 7:00:00 PM
End: 4/19/2013 8:30:00 PM
Show Time As: Tentative

-----Original Appointment-----
From: GovCalendar
Sent: Wednesday, April 17, 2013 5:37 PM
To: Brader, Valerie (GOV); Muchmore, Dennis (GOV); Hichez, Amy (Treasury); Tedder, Greg (GOV); Wisniewski, Wendy (GOV); Rustem, William (GOV)
Cc: Thelen, Mary Beth (DEQ); Clayton, Stacie (GOV)
Subject: RDS/GT/VB - KWA & DWSD (Water) Meeting
When: Friday, April 19, 2013 3:00 PM-4:30 PM (GMT-05:00) Eastern Time (US & Canada).
Where: Governor's SE MI Office

PPI

Attendees:
RDS/GT in person, Val Brader by phone
Mr. Orr by phone
Harvey Hollins by phone or in person
Attending from DWSD: Jim Fausone, Sue McComerick (Director), Nikki Bateson (CFO) Attending from Flint: Ed Kurtz (he is sending his attendee list over shortly)
Attending from Treasury: Andy Dillon

From: Willard, Veronica (DEQ) on behalf of Shekter Smith, Liane (DEQ)
Sent: Tuesday, September 09, 2014 2:39 PM
To: Wyant, Dan (DEQ)
Subject: FW: Flint Site 5 Boil water advisory documents
Attachments: Boil PN TC detected.pdf; Flint-Site5-BWA.pdf

Hi Steve -- this is Vera (Veronica) - I believe this may be what Jim asked me to forward to you. If you need anything more, let me know. Thanks -- Veronica for Liane

---

From: Shekter Smith, Liane (DEQ)
Sent: Friday, September 05, 2014 2:52 PM
To: Sygo, Jim (DEQ); Wurfel, Brad (DEQ)
Cc: Shaler, Karen (DEQ); Feuerstein, Heather (DEQ); Willard, Veronica (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Subject: FW: Flint Site 5 Boil water advisory documents

FYI – heads up.

From: Busch, Stephen (DEQ)
Sent: Friday, September 05, 2014 2:47 PM
To: Daugherty Johnson (djohnson@cityofflint.com); Brent Wright (bwright@cityofflint.com); mglasgow@cityofflint.com
Cc: Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Flint Site 5 Boil water advisory documents

Gentlemen,

Attached are the boil water advisory public notice with all required language and a map of the impacted zone. Please distribute to your media contacts immediately.

Once we have 2 sets of non-detect samples from the impacted area we can discuss lifting the advisory.

You indicated that flushing of the area has already started.
Please ensure the water system is taking investigative steps to identify a possible source

- Inspect storage facilities
- Verify pumping and treatment system remains intact and uncontaminated
- Inspect cross connection accounts in the affected area
- Survey the area for any unidentified cross connections
- Review any recent construction or maintenance in the area
- Check for building permits and with building inspectors for any recent construction in the area
- Check with fire departments and DPW for any temporary or improper hydrant use
- Review pumpage and check for breaks, leaks, or an uptick in unaccounted water loss
- Ensure any vacant properties have had the water service shutoff
- Review Cl residual data, conduct additional Cl monitoring, and increase disinfectant residual

I will be in contact with the County Health Department and the MDARD Food and Dairy Division.

You can reach me over the weekend at this number or Mike Prysby at his number.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

LOCALIZED DRINKING WATER WARNING

Coliform bacteria detected in localized area of Flint water system

BOIL YOUR WATER BEFORE USING

Our water system detected the presence of coliform bacteria in the water supply on September 3, 2014. We routinely monitor for the presence of drinking water contaminants. We took routine samples for coliform bacteria during on September 2, 2014 from all sampling locations throughout the city. The location near Flushing Road and Chevrolet Avenue showed the presence of coliform bacteria. We took three repeat samples at this location and at adjacent locations on September 3 and again on September 4, 2014. Two of the three samples on the 3rd showed the presence of total coliform bacteria and three of the three samples collected on the 4th in this same area showed the presence of total coliform bacteria. All other monitoring locations in the City continue to show no presence of Coliform bacteria.

What should I do?

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and preparing food. Boiling kills bacteria and other organisms in the water. **Continue using boiled or bottled water until further notice.** This boil notice is limited to the area bordered by Dayton Street (north), DuPont Street (east), Flint River (south), and LaVelle Road to Flint River (west).

If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

What does this mean?

Total coliform bacteria are generally not harmful themselves. *Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.*

Usually, coliforms are a sign that there could be a problem with the treatment or distribution system (pipes). Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. We did not find any of these bacteria in our subsequent testing. If we had, we would have notified you immediately. However, we are still finding coliforms in the drinking water.

What happened? What is being done?

We are still detecting coliform bacteria. We will inform you when our sampling shows that no bacteria are detected. We are flushing the system and increasing the chlorine residual within the affected area. We anticipate resolving the problem within the next two to three days. In the meantime, please continue using boiled or bottled water until we notify you otherwise.

If you have questions, you may contact Mr. Brent Wright of the City of Flint at 810-787-6537, bwright@cityofflint.com , 4500 North Dort Highway, Flint MI. 48505 or Daughtry Johnson, Utilities Administrator (810) 766-7135, ext. 2602. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.

CERTIFICATION: WSSN: [enter Water Supply Serial Number]

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

cc: [cc the local health department and the Michigan Department of Agriculture and Rural Development if the boil affects a municipal supply.]

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you as a precautionary measure by the City of Flint.

CERTIFICATION: WSSN: [enter Water Supply Serial Number]

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

cc: [cc the local health department and the Michigan Department of Agriculture and Rural Development if the boil affects a municipal supply.]

Broadway Ave
Broadway
Broadway
Broadway

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, September 17, 2014 11:10 AM
To: Wyant, Dan (DEQ)
Cc: Anderson, Madhu (DEQ);Patterson, Leigh (DEQ)
Subject: Harvey Hollins - Will Call Your Cell at 3:30 EST Today

Importance: High

Director,

Harvey Holliins of the Governor's office would like to talk to you at 3:30 today by cell.

RE: Water Advisories for Flint
RE: Water and Sewage Grants – Flood Funding, other funding

Director, Harvey will call your cell phone at 3:30 today.

In case you miss him, his cell is **PPI**

Please let me know if you need anything or if this will not work for you.

Thanks.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, October 01, 2014 9:27 AM
To: Busch, Stephen (DEQ);Wyant, Dan (DEQ)
Cc: Benzie, Richard (DEQ);Prysby, Mike (DEQ);Wurfel, Brad (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Willard, Veronica (DEQ)
Subject: RE: Draft Governors Briefing - Flint Water

Thanks Stephen.

Director has approved the content – I'll have Karen Shaler proof the briefing (take off draft, etc) and we will get it over to the Governor and Governor's staff today.

Thanks.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Busch, Stephen (DEQ)
Sent: Tuesday, September 30, 2014 12:37 PM
To: Thelen, Mary Beth (DEQ); Wyant, Dan (DEQ)
Cc: Benzie, Richard (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ)
Subject: Draft Governors Briefing - Flint Water

Director Wyant,

Attached is our draft of a briefing for the Governor's Office regarding City of Flint water system boil water advisories. This is per your request following our meeting last Thursday 9/25.

I have also attached a copy of the policy ODWMA-399-022 which specifically provides guidance regarding boil water advisory situations, and a chart showing the significant increase in the City of Flint's water demands following the extreme conditions experienced this past winter.

If you have any questions or need any additional information, I will be in Lansing this week on Thursday afternoon and Friday morning, and as always you can reach me on my cell phone as listed below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, October 01, 2014 11:02 AM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Draft from MBT - Open Immediately - Quick Question
Attachments: Flint Monthly Pumpage Comparison.pdf; ODWMA-399-022.pdf; Governor Briefing - City of Flint 10-1-14.docx; Governor Briefing - City of Flint 10-1-14.pdf

Importance: High

Dan,

Draft - are you okay with attaching the other documents that Stephen provided? The policy is referred to in the briefing. I assumed yes but wanted to make sure. Okay to send as below?

Dear Governor, Dennis, and Val,

Per your request, the attached briefing paper is on the City of Flint drinking water situation. Director Dan Wyant has asked that I send this to you. A Word version as well as a pdf version is attached. We have also included a copy of the policy ODWMA-399-022 which specifically provides guidance regarding boil water advisory situations, and a chart showing the significant increase in the City of Flint's water demands following the extreme conditions experienced this past winter.

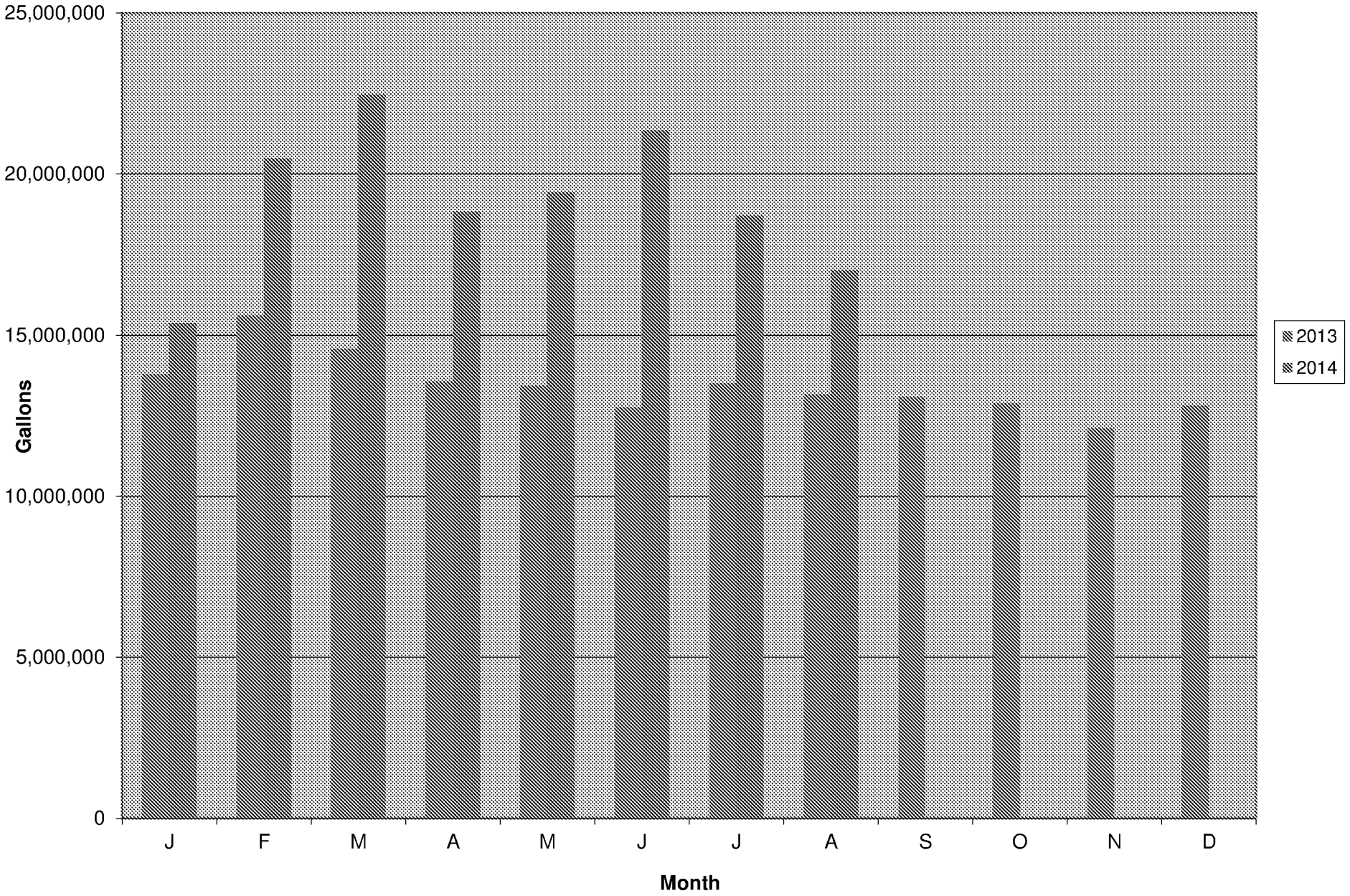
Allison, please forward to the Governor. Thank you.

If you have any questions or need further information, please let us know. Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

City of Flint Monthly Averages



DEQ	OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE POLICY AND PROCEDURE		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: October 12, 2007 **Revised Date:** **Reformatted Date:** January 24, 2013	**Subject:** Guidelines for Issuing Boil Water Advisories to Address Potential Microbial Contamination of Community Water Supplies **Division/Office and Program Names:** ODWMA-Public Water System Supervision Program		**Category:** ☐ Internal/Administrative ☐ External/Noninterpretive ☒ External/Interpretive
	Number: ODWMA-399-022	Page: 1 of 10	

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

INTRODUCTION, PURPOSE, OR ISSUE:

Community water systems are expected to provide customers with a continuous supply of water that meets both federal and state drinking water standards. However, there may be circumstances when the public must be notified that the water may not be safe. In these circumstances, a boil water advisory may be issued to prevent illness from known or suspected microbiological contamination. This policy is to provide guidance to Office of Drinking Water and Municipal Assistance (ODWMA) drinking water program staff on advising community water system personnel when to issue and rescind a boil water advisory, the appropriate content, and the manner and method of delivery.

AUTHORITY:

Administrative rule R 325.10401a promulgated under the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), being Michigan Compiled Law 325.1001 *et seq.*, requires public notification for violations of maximum contaminant levels and treatment techniques plus other situations as determined by the DEQ. Each public notice is required to state what actions consumers should take during a violation, which may include a statement recommending water customers boil all water used for consumption until further notice.

In addition, R 325.11207 allows the DEQ to require the supplier of water to provide notice to customers or users that include any precautionary measures deemed necessary when an interruption in water service occurs, which could include low, zero, or negative pressure events.

Furthermore, R 325.12303 requires a supplier of water to include in their contingency planning a description of precautions or measures to be taken to protect the health of those customers or users that may be affected by an emergency. R 325.12304 also requires a supplier of water to notify the DEQ when an emergency is discovered and how the supply will notify its customers or users. While the content of this notification to customers or users may vary depending upon individual circumstances, each notification to customers or users must state what actions or precautions they should take, which may include a statement to boil all water used for consumption until further notice.

STAKEHOLDER INVOLVEMENT:

DEQ staff met with Municipal Utilities Directors to seek input on issues that were subsequently addressed in this policy and procedure.

DEFINITIONS:

"Boil Water Advisory (BWA)" – A written or verbal advisory issued by the community water system or DEQ notifying the users of the water system that the water is or may be contaminated and advising them to boil the water prior to using it for drinking or cooking.

"Community Water Supply (CWS)" – A public water supply (PWS) that provides year-round service to not fewer than 15 living units, or that regularly provides year-round service to not fewer than 25 residents. Examples include municipalities, such as cities, villages, and townships; apartment complexes; manufactured housing communities; condominiums; and nursing homes.

"Complete Loss of Pressure" – Sustained negative pressures or pressure below five psi in any portion of a distribution system. It does not include instantaneous low or negative pressure occurring from pressure surges caused by pump cycling, valve operation, or other water hammer events.

"Maximum Contaminant Level (MCL)" – The maximum permissible level of a contaminant in water that is delivered to any user of a PWS.

"Repeat Sample" – A sample that is collected and analyzed in response to a previous coliform-positive sample.

"Routine Sample" – A water sample that is collected and analyzed to meet the monitoring requirements for total coliform, as outlined in the written sampling plan.

"Tier 1 Public Notice" – A public notice required to be provided as soon as practical but not later than 24 hours after the supplier learns of a violation or situation that has significant potential to have serious adverse effects on human health as a result of short-term exposure. A Tier 1 Public Notice also requires the supplier to initiate consultation with the DEQ as soon as practical but not later than 24 hours after the supplier learns of the violation or situation. Examples of these violations or situations include:

1. A violation of the Total Coliform MCL when fecal or *E.coli* are present in the distribution system;
2. A violation of the treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit;
3. An occurrence of a waterborne disease outbreak;
4. A failure or significant interruption in key water treatment processes;
5. A disruption of the water supply or distribution system; and

6. Other violations or situations as determined by the DEQ on a case-by-case basis. A violation or situation that requires a Tier 1 Public Notice also requires the supplier to consult with the DEQ to determine additional public notice requirements, including the timing, form, manner, frequency and content of the notice designed to reach all persons served, and any repeat notices or directions. At a minimum, one or more of the following forms of delivery must be used:
   a. Appropriate broadcast media:
   b. Posting of the notice in conspicuous locations throughout the area served by the system;
   c. Hand delivery of the notice to persons served by the system; or
   d. Another delivery method approved by the DEQ.

Within 10 days of completing the Tier 1 Public Notice, the supplier shall submit to the DEQ a certification that it fully complied with the public notification requirements, including a representative copy of the type of notice distributed to persons served by the system and to the media.

"Tier 2 Public Notice" – A public notice required to be provided as soon as practical but not later than 30 days after the supplier learns of a violation or situation that has the potential to have serious adverse effects on human health. Examples of these violations or situations include:
1. All violations of MCL, maximum residual disinfectant level, and treatment technique requirements except where the DEQ determines a Tier 1 notice is required.
2. Violations of monitoring and testing procedure requirements, taking into account potential health impacts and persistence of the violation; and
3. Failure to comply with a variance or exemption.

For a Tier 2 Public Notice, the DEQ may, on a case-by-case basis, grant extensions in writing for up to three months from the date the supplier learns of the violation or situation, for reasons such as coordinating with billing cycles or if the violation or situation was quickly resolved and no longer poses any risk to the persons served. A Tier 2 Public Notice shall be repeated every three months as long as the violation or situation exists. A Tier 2 Public Notice and any repeat notices shall be in a form and issued in a manner that is reasonably calculated to reach persons served in the required time period. At a minimum, the notice shall be provided:
1. By mail or direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the supplier, and
2. By other methods reasonably calculated to reach other persons not receiving a bill, such as apartment dwellers, university students, nursing home patients and prison inmates. Other methods may include:
   a. Publication in a local newspaper
   b. Delivery of multiple copies to apartment complexes and manufactured housing communities
   c. Posting in public places or on the Internet
   d. Delivery to community organizations

"Treatment Technique (TT)" – Minimum treatment requirement or a necessary methodology or technology that is employed by a supplier of water for the control of the chemical, physical, biological, or radiological characteristics of a PWS.

POLICY:

A BWA may be issued for a variety of reasons when microbial contamination is known or suspected. Total Coliform Rule (TCR) MCL violations, surface water TT violations, low or loss of pressure events, and waterborne disease outbreaks are circumstances when a BWA may be issued. Each of these situations is discussed in detail below. However, these situations are not the only times a BWA can or should be issued. Each incident must be handled on a case-by-case basis, using professional judgment to evaluate the circumstances in each situation.

Finally, there may be situations when water systems experience contamination that is not microbial, but chemical due to a chemical spill or backflow due to a cross connection. In these cases, a notice to customers could include "Do Not Use" language since boiling the water may not remove the contamination.

Types of Incidents:

1. Violation of a Drinking Water Standard

   a. TCR MCL Violations

      An acute TCR MCL violation occurs when monitoring indicates the presence of coliform organisms in both a routine and a follow-up repeat sample in the same monitoring period, and either analysis (routine or repeat) is also positive for fecal or *E.coli*. Because this MCL violation confirms the presence of a more direct connection to contamination, these violations warrant issuance of a BWA, unless there are unique circumstances.

      A non-acute TCR MCL violation occurs when monitoring indicates the presence of coliform bacteria in 2 or more samples in the same monitoring period for a supplier collecting less than 40 samples per month, or in more than 5 percent of the samples for a supplier collecting 40 or more samples per month, and the criteria for an acute violation did not occur, i.e., fecal coliform or *E.coli* were NOT detected present in either a routine or repeat sample. For example, a system that collects 5 samples per week for a total of 20 per month may have 1 sample report positive for total coliform or fecal/*E.coli* during the first week, but all repeat samples report negative for coliform. If another sample in a subsequent week also reports total or fecal/E.coli positive, but again, all repeat samples are coliform-negative, then a non-acute TCR MCL violation has occurred because 2 or more samples reported positive for coliform, but no fecal coliform or *E.coli* were detected in both a routine and a repeat sample.

When a non-acute violation occurs, staff should evaluate possible sources of contamination. If a source is identified that is considered likely to contribute disease causing organisms or result in water of questionable quality still being distributed, a BWA should be instituted. Examples of contaminant sources that would elevate the public health risk include, but are not limited to:

- flooding of the wells
- failure of the treatment system
- recent construction activity in the distribution system
- vermin (birds, rodents, etc.) activity in storage tanks
- system-wide or extensive pressure loss in the distribution system

Even if the source of contamination is not easily identified, a BWA may be appropriate for a non-acute TCR violation if the violation is widespread or ongoing. A BWA shall be instituted if monitoring indicates *E. coli* or fecal coliform contamination unless unusual circumstances warrant consideration, such as the absence of any coliform in repeat samples, or when staff are assured that the contamination has been eliminated before confirmation results are available.

However, not every TCR MCL violation must result in a BWA. There may be a few exceptions when there is a TCR MCL violation but a BWA is not needed. For example, a violation may be declared in situations where samples collected on different days from widely dispersed locations report coliform present even though repeat samples do not show positive results. In this case, the sampling results may constitute a MCL violation, but a BWA may not be necessary.

If a BWA is deemed necessary by the ODWMA, it should be issued as soon as possible but no later than 24 hours after the system learns of the violation. Because violation of an MCL results in required public notification (PN) per the PN Rule, the water supply may issue the PN and BWA simultaneously in one document (highly recommended) and must meet all the requirements of a Tier 1 PN and include BWA language.

After measures have been taken to eliminate the source(s) of contamination, such as initiating or increasing chlorine feed rates and system flushing, additional sampling must be conducted. Raw water bacteriological sampling is also encouraged to eliminate the raw water as the possible source of contamination. For MCL violations, the BWA can be rescinded after the analyses of two sets of samples collected 24 hours apart report the absence of coliform bacteria. The number of samples in each set should be a minimum of five samples, but can be decreased or increased based on system size or the extent of the affected area. Systems are encouraged to use routine sample sites if available and to use extra care if routine sites are not available.

b. Surface Water Treatment Rule (SWTR) TT Violations

SWTR TT violations include:

- exceedance of turbidity standards at filter confluence point
- failure to meet disinfection contact time requirements (C*T)
- failure to meet disinfection residual standards

Upon determination of an SWTR TT violation, ODWMA staff must determine if the violation poses a threat to public health. For example, if the turbidity levels at the filter confluence point were found to have exceeded 0.3 nephlometric turbidity units (NTUs) in 95 percent of the samples in a two-month period, an SWTR TT violation has occurred. Based upon a review of plant performance and consultation with program managers, staff may determine that no significant health risk was posed and no BWA is necessary. However, the water supply must still issue a Tier 2 PN within 30 days of the violation. On the other hand, a BWA is likely to be necessary for a treatment plant that gets overwhelmed by excessive runoff and reports a turbidity level in excess of 1.0 NTU at the filter confluence point for a four-hour period.

If the TT violation is ongoing or prolonged, or the ODWMA determines a significant public health risk is posed, ODWMA staff may elevate the PN to Tier 1 status, which must be issued within 24 hours and include BWA language. After appropriate measures have been taken to reduce or eliminate any health risk, additional monitoring must be conducted. Appropriate measures may include increasing coagulant dose, increasing chlorine residuals through the treatment plant, backwashing filters more often and flushing key system components. In this case, a BWA can be rescinded after analyses of two sets of samples collected 24 hours apart report the absence of coliform bacteria. The number of samples in each set should be a minimum of five samples, but can be decreased or increased based on type and severity of the TT violation.

Surface water plants utilizing conventional or direct filtration must add a primary coagulant under R 325.11008. Failure to add a primary coagulant is a violation of Act 399, and may also contribute to a TT violation under R 325.10611 (Filtration and Disinfection) which requires 3-log inactivation of giardia and 4-log inactivation of viruses. In these cases, ODWMA staff will have to determine if the violation poses a threat to public health and whether other actions are necessary, such as requiring a BWA. Factors to consider if a BWA is necessary would include chlorine residual concentrations throughout the treatment plant, raw water quality, C*T compliance, plus individual filter effluent and combined filter effluent turbidity levels.

2. Waterborne Disease Outbreaks

Waterborne disease outbreaks can be declared by the Centers for Disease Control and Prevention, the Department of Community Health, a local health department, or other public

health institutions. If an outbreak is declared, the ODWMA will work with the declaring agency to ensure affected community public water supplies take appropriate measures to mitigate public exposure. These measures will include appropriate public notification, including instructions to boil water if appropriate. The ODWMA will allow the water supply to rescind the notification when the agency declaring the outbreak indicates it is safe to do so as the result of additional monitoring.

3. Interruptions in Service

   a. Negative or Complete Loss of Pressure

      A complete loss of pressure or negative pressure in the distribution system must result in a BWA being issued to all water customers in the impacted area. After pressure is restored and the system recovers (tanks are filling and enough sources are operating to ensure pressures do not drop again), the affected area should be thoroughly flushed and coliform samples must be taken throughout the area to determine if the distribution system remains free of coliform contamination. The number of samples will vary depending on the size of the system and the extent of the area impacted. For very small systems that experience a power failure that results in a complete loss of pressure throughout the distribution system, a minimum of three samples should be collected. If applicable, chlorine residual measurements should be taken to ensure that an adequate disinfectant residual is present. If possible, chlorine dosages and residuals should be increased by 1 to 2 parts per million during this period as a corrective and preventive measure. If the first round of sampling does not detect coliform bacteria, the advisory may be rescinded. However, if the first round of sampling detects coliform bacteria, additional flushing should be conducted in the area where the positive coliform samples were collected and a second round of coliform samples collected from the area. The BWA should remain in effect until safe coliform sample results are obtained.

   b. Low Pressure Events

      Low pressure events might not result in a BWA. Low pressure is considered a drop in pressure below 20 psi but greater than 5 psi. A drop in water pressure in a distribution system could allow contamination to enter the water system through backflow by backpressure or backsiphonage. The decision to issue a BWA should be made on a case-by-case basis and be based upon professional judgment of all available data that may indicate the extent of the problem, such as:

      - Geographical extent of the pressure loss
      - Nature of the service area (residential vs. commercial/industrial)
      - Duration of the low pressure condition
      - Disinfection practices of the water system
      - Relative elevation differences in the service area
      - Status of the local cross connection control program

- Age and condition of the underground piping
- Amount of underground piping located in areas of a high groundwater table
- Ability and willingness of the operators to rapidly apply chlorine to the system or distribute an increased chlorine residual throughout the affected area

After normal pressure is restored, the impacted area should be thoroughly flushed and coliform samples taken throughout the area to determine if the distribution system is free of any bacteriological contamination. The collection of coliform samples after low pressure events is not absolutely required, but may be recommended based on the factors above.

c. Water Main Breaks or Repairs

A BWA may be issued during water main breaks and after the break has been repaired. Whether or not to issue a BWA will depend on the location and severity of the break and, more importantly, a decision based on sound engineering judgment that the integrity of the water system has been maintained. If at all possible, repairs should be performed under reduced or low pressure by closing the closest valves on each side of the break just enough to reduce the flow so the repairs can be made under pressure while the water flowing from the break is diverted away from the excavation to maintain clean sanitary conditions. If the water main can be repaired under pressure, and no nonpotable water, soil, or other potential contaminants entered the main during the break and repair process, then a BWA is not necessary. If the water main that was removed from service is flushed, disinfected, and sampled in accordance with AWWA Standard C651 before being placed back into service, a BWA does not need to be issued.

If a water main break results in a complete loss of pressure before, during, or after the repair is made, a BWA must be issued to all customers in the affected area. The BWA should remain in effect until the area is flushed, chlorine residuals are reestablished (if applicable), and sample results do not detect coliform bacteria.

Content and Delivery of a BWA

If the ODWMA determines a BWA is necessary, the water supply must issue the advisory as soon as practical, but not later than 24 hours after being advised to do so. The supply must make a good faith attempt to notify all customers in the affected area. Appropriate methods of distribution are situation specific, but may include radio or television broadcasts, hand delivery, and/or posting in conspicuous locations throughout the area. Delivery requirements as detailed in the PN Rule should be used to determine appropriate delivery methods.

Although there are content requirements for public notification under the PN Rule, there are no requirements specific to boil water language. To ensure all appropriate information is transmitted to the customers, a BWA should include the same content elements as required for

public notification under the PN Rule. If a BWA is issued as the result of an MCL violation and the water supply issues the BWA in conjunction with the required PN (highly recommended), the content MUST meet all PN Rule content, delivery, and reporting requirements.

The ODWMA boil water language is consistent with the U.S. Environmental Protection Agency policy that requires water be brought to a boil and allowed to boil for one minute before use. The language also suggests the use of bottled water as an alternative to boiling and describes the circumstances under which boiled or bottled water should be used.

Staff should notify the appropriate local health department and the Department of Agriculture and Rural Development, Food and Dairy Division, whenever a BWA is issued or rescinded. These agencies may receive calls from concerned customers or be involved in oversight of facilities impacted by the boil advisory and, therefore, need to be aware of the situation.

Several BWA templates have been created and are available to ODWMA staff on the DEQ Intranet. To ensure consistency and inclusion of all necessary content, these templates should be used as the basis for PNs and/or a BWA. Available templates include, but are not limited to:

- Advisory for a TCR MCL.
- Advisory for a low/no pressure event.
- Notification for cancellation of a BWA.

PROCEDURES:

WHO	DOES WHAT
Public Water Supply	Notify DEQ of results in a timely manner as required by law and follow through with appropriate actions.
District Staff	Respond to all TCR and TT violations plus complete loss of pressure events in a timely manner and determine whether a BWA needs to be issued. • If needed, assist supply in drafting BWA and determining most appropriate method of delivery with approval from the District Supervisor. • If needed, assist the supply in determining actions to remove the possible contamination including steps needed to rescind the BWA.
District Staff	Provide on-site technical assistance for acute TCR MCL violations and other boil water situations as appropriate.
District Supervisors	Assist District Staff in the all matters pertaining to issuing a BWA.

REFERENCES:

Safe Drinking Water Act, 1976 PA 399, as amended, being Michigan Compiled Law 325.1001 *et seq.*, and the administrative rules promulgated thereunder, being R 325.10101 *et seq.* of the Michigan Administrative Code.

OFFICE CHIEF APPROVAL:

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance

1/18/2013
Date

DEPUTY DIRECTOR APPROVAL:

Jim Sygo, Deputy Director

1/24/2013
Date

DEPARTMENT OF ENVIRONMENTAL QUALITY

GOVERNOR'S OFFICE BRIEFING PAPER
CITY OF FLINT DRINKING WATER

What contributed to the Boil Water Advisories in the city of Flint?

A number of factors, not one specific cause, likely contributed to the Boil Water Advisories (BWAs) in the city of Flint during August and September 2014. While use of the Flint River has increased the amount of natural organic matter in the city's water, the Flint Water Treatment Plant (WTP) has performed well above treatment requirements for organic carbon removal. In addition, less than 20 percent of the water system was included in the advisory area. If treatment had been compromised, detections would have been widespread throughout the city, rather than in such a localized area.

The city's water distribution system has suffered from a lack of infrastructure investment and asset management. Most of the city's over 550 miles of water mains are now over 75 years old and constructed of cast iron piping. Cast iron pipe is subject to internal corrosion, called tuberculation, which causes buildup on the pipe interior, leading to water quality issues, reduced flow and pressures, and leakage. Tuberculation also encourages the development of biofilms, layers of bacteria that attach to the interior pipe wall. Biofilm growth is common in areas of piping with little or no disinfectant residual, and together with tuberculation can clog water lines to the point of insufficient water pressure.

The city has also experienced decades of a declining user base and water use associated with vacant homes, commercial businesses, and industrial property. Declining water use leads to excess residence time within the city's distribution pipes and water storage facilities, accelerating tuberculation, biofilm growth, and disinfectant residual degradation. While the city has recently seen an infusion of funding for blight removal, contractors completing this work have been improperly using fire hydrants, causing hydraulic disturbances that dislodged and suspended settled debris, which may have contributed to the bacterial contamination.

The winter of 2014 was also one of the coldest experienced by the water system. The city, which historically has unaccounted water losses of over 30 percent, has seen even greater losses since February 2014 due to an increase in cold weather-related water main breaks and leaks. The city lacks a formal maintenance program for its over 7,250 valves, which would normally be used to limit impacts during break repairs. Two valves on the transmission line used to supply the area of the BWAs were found to be closed during the city's investigation, causing longer residence time, reduced disinfectant residual, reduced flow, and reduced pressure. One of these valves has remained broken.

The BWAs also occurred during the warmest and, for 2014, relatively wet periods of August and September. Warm weather conditions are not only more conducive to bacterial growth but also degrade the water's disinfectant residual carried out from the WTP more quickly. Longer residence times, biofilms, and tuberculation also contribute to disinfectant residual degradation. Warm wet weather conditions also allow water contaminated with bacteria to pool around piping with leaks and breaks.

Process for Issuance and Cancelation of a Boil Water Advisory

There are a number of conditions that can trigger BWAs. This includes the following:

- Bacteria Monitoring Detections
- Bacteria Standards Violations
- Treatment System Failures
- Waterborne Disease Outbreaks
- Loss of System Pressure
- Water Main Breaks
- Other Interruptions in Service

The Department of Environmental Quality (DEQ) has developed a policy and procedure regarding BWAs to help guide staff, provide consistency, and maintain public health. A PDF of Policy and Procedure No. ODWMA-399-022 is being forwarded with this briefing paper.

BWAs may be self-initiated by the water system, issued collaboratively in consultation with the DEQ, or when necessary mandated by the DEQ. Requesting customers to boil the water when bacterial contamination has occurred provides an added barrier of public health protection.

The BWAs that recently occurred in the city of Flint were associated with bacteria monitoring detections and violations of bacteria standards. These advisories were issued by the city of Flint collaboratively in consultation with the DEQ.

Current regulations regarding monitoring and standards for bacteria in water distribution systems were developed by the U.S. Environmental Protection Agency, have been in effect since 1990, and were incorporated into the Michigan Safe Drinking Water Act, 1976 PA 399, as amended. There are a variety of bacteria, parasites, and viruses that can potentially cause health problems if humans ingest them in drinking water. Testing water for each of these potential pathogens would be difficult and expensive. Instead, water systems test for total coliform and *E.coli*. Total coliform bacteria react to water treatment in a manner similar to many pathogens. Therefore, the presence of total coliform in drinking water indicates there may be a pathway for pathogens or other contaminants to enter the system. The absence of total coliforms in the distribution system minimizes the likelihood that pathogens are present. *E.coli* is itself a pathogen, and its detection would be direct evidence of a health risk.

Once a BWA has been issued, time is needed to investigate potential causes and implement corrective measures. The larger the water system, the more time this may take. Once corrective measures have been taken, samples must be collected and

analyzed to confirm that bacteria are no longer present. Using the most common analytical method, samples must be incubated for a period of 24 hours before results can be obtained. In situations where the bacterial contamination has been confirmed, two consecutive rounds of safe samples collected at least 24 hours apart are normally obtained before canceling a BWA. Adding each of these steps together, a normal response period to cancel a BWA under these circumstances would be expected to take at least 3 to 4 days.

Recent History of the City of Flint Water System

Historically, the city of Flint had been a customer of the Detroit Water and Sewerage Department (DWSD) while simultaneously maintaining the Flint WTP to provide emergency backup service using the Flint River. The WTP performed quarterly test operations to maintain readiness and was utilized twice in 2009, supplying water once for 2 days and the other for 3 days.

In April 2013 the city of Flint notified the DWSD that it would be terminating service in the future and contracting for raw water service from the Karegnondi Water Authority (KWA). Work on the KWA pipeline from Lake Huron broke ground in June 2013 and is expected to be completed with connection in late 2016.

In August 2013 Rowe Professional Services Company completed an engineering proposal for improvements to the Flint WTP that would allow continuous operation of the WTP utilizing the Flint River in lieu of continuing service from the DWSD until completion of the KWA pipeline. In March 2014 the city of Flint entered into a Consent Agreement with the DEQ regarding the Flint WTP's lime sludge facility. In April 2014 the DEQ issued a construction permit for improvements to the Flint WTP. On April 25, 2014, the city of Flint began continuous operation of the WTP, using water from the Flint River and discontinued the purchase of water from the DWSD.

A BWA was issued for August 15-20, 2014, for a portion of the city of Flint due to localized detections of total coliform and *E.coli* bacteria. Another BWA was issued for September 5-9, 2014, due to localized detections of total coliform bacteria in the same and adjacent portions of the city of Flint. The advisory covered an area of approximately six square miles. The city of Flint has a total land area of just over 34 square miles.

While many of the BWA contributing factors listed above require long-term solutions, the city has taken operational steps to limit the potential for a BWA to reoccur. The city has increased flushing of water mains to limit residence time, maintain disinfectant residual, and help remove buildup and deposits within the piping. The city is boosting chlorine disinfectant residual at locations in the distribution system as needed. The city continues to investigate water leaks and water main breaks and the status and condition of system valves.

Prepared by: Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
Department of Environmental Quality
October 1, 2014

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Prepared by: Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
Department of Environmental Quality
October 1, 2014

From: Aldridge-Eason, Karen <kaldridge-eason@michiganfoundations.org>
Sent: Thursday, October 02, 2014 5:19 PM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ);Maura Dewan;Hartwell, Helen
Subject: Flint Water Situation

Dan,

I am checking in with you to see if you have any updates on the Flint water situation. Perhaps, we could have a brief conversation next week. I am heading out of state tomorrow, but back in the office on Tuesday.

I want you to know that Bill White (CS Mott Foundation President) was pleased to know that you were very much aware of Flint's water problems and were keeping the Governor apprised.

Karen

Karen Aldridge-Eason
Office of Foundation Liaison
Office of the Governor
111 S. Capital Ave.
Lansing, MI 48909
517-241-1689 -- office
810-938-7222 -- mobile
kaldridge-eason@michiganfoundations.org

From: Thelen, Mary Beth (DEQ)
Sent: Sunday, November 09, 2014 2:59 PM
To: DEQ-EXE-800 Meeting Attendees
Subject: November 10, 2014 Agenda - DEQ Executive 8:00 Team

Importance: High

Dear Monday 8:00 Group:

Director's Items for Monday, November 10, 8:00-8:40 meeting. If you need to call in, please let MBT know.

Thank you.

- Future SMT Meeting Schedule
- Part 201 Wrap Up Meeting (Anne has invited Bob Wagner to my knowledge)
- Water Use
- Water Strategy
- Urban Oil and Gas Workgroup
- New Legislators
- Budget
- Green Up Conference November 12
- Recycling
- City of Flint Drinking Water
- Enforcement Policy
- Update on Great Lakes Pipeline Task Force Council
- SAW Grants
- Plainfield Township
- Radioactive Waste
- Lake Erie Issues
- Enbridge
- 111d update
- Sappi Paper
- Environmental Justice
- Waters or the United States/Wetlands/Blueberries
- Recycling Council Updates
- One Voice Document
- Farm Bill Updates
- Ontario Power Generation and MHSA
- 201 Amendments
- 201 criteria workgroup
- DWSD
- ORR
- Resource Based Industries
- Compliance Assistance/Customer Service/Employee Engagement

- Part 31 Water Rules strategy
- Part 5, Part 13, Part 23, and Part 22

Thank you.

Mary Beth

From: Thelen, Mary Beth (DEQ)
Sent: Friday, December 12, 2014 5:20 PM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators
Cc: DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Directors 800 Exec Team List as well as 8:30 SMT

Dear SMT and District Coordinators:

Below are the Director's Items for the 8:00 Executive meeting and the 8:30 SMT meeting. I will bring copies. It is in a different format than the past. Also, I have the final draft of the SMT highlights done for December 1 and Sygo will approve over the weekend and I'll get the final out this weekend as well. Sorry for my delay. It has been a busy month. Have a great weekend.

EXE

- Director's Advisory Council
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin

- Budget
- Grant Summit

AQD

- Sappi Paper
- 111d Updates

OGL

- Water Strategy

OEA

- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste

- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, December 18, 2014 3:20 PM
To: DEQ-EXE-800 Meeting Attendees
Cc: Wilcox, Candra (DEQ);Shaler, Karen (DEQ);Feuerstein, Heather (DEQ);Olszewski, Rosemarie (DEQ);Patterson, Leigh (DEQ)
Subject: Directors 800 Exec Team List for December 22

Dear Executive Team:

Below are the Director's Items for the 8:00 Executive meeting on Monday.

EXE

- Director's Advisory Council
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin

- Budget
- Grant Summit

AQD

- Sappi Paper
- 111d Updates

OGL

- Water Strategy

OEA

- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, January 02, 2015 4:39 PM
To: DEQ-EXE-800 Meeting Attendees;Creal, William (DEQ)
Cc: Wilcox, Candra (DEQ);Feuerstein, Heather (DEQ);Patterson, Leigh (DEQ);Smith, Laura (DEQ);Shaler, Karen (DEQ)
Subject: Directors 800 Exec Team List for January 5, 2015

Dear Executive Team:

Below are the Director's Items for the 8:00 Executive meeting on Monday. **Bill Creal is scheduled to attend to give us an Water update**. See you on Monday.

EXE

- Director's Advisory Council
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin

- Budget
- Grant Summit

AQD

- Sappi Paper
- 111d Updates

OGL

- Water Strategy

OEA

- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, January 16, 2015 3:24 PM
To: DEQ-EXE-800 Meeting Attendees;Fitch, Hal (DEQ)
Cc: Lawrence, Deana (DEQ);Wygant, Adam (DEQ);Feuerstein, Heather (DEQ);Patterson, Leigh (DEQ);Wilcox, Candra (DEQ);Allan, Jon (DEQ);Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ)
Subject: Director's 8:00 Exec Team List for January 20, 2015

Dear Executive Team attending the 8:00 **Tuesday** Morning meeting:

Below are the Director's Items for the 8:00-9:30 Executive meeting on **Tuesday**, January 20, 8:00. Hal Fitch **is scheduled to attend the 8:00 to give us an OOGM update**.

EXE
- Governor's State of the State
- Meet/Greet New Legislators and New Committees
- Director's Advisory Council
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Datema, Maggie (DEQ)
Sent: Wednesday, January 21, 2015 8:53 AM
To: Wyant, Dan (DEQ)
Subject: Fwd: Flint Mayor request to Governor regarding Flint Water

Begin forwarded message:

> **From:** "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
> **Date:** January 21, 2015 at 8:41:24 AM EST
> **To:** "Shekter Smith, Liane (DEQ)" <SHEKTERL@michigan.gov>, "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>, "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>
> **Cc:** "Datema, Maggie (DEQ)" <DatemaM@michigan.gov>, "Howes, Sarah (DEQ)" <HowesS1@michigan.gov>
> **Subject: Flint Mayor request to Governor regarding Flint Water**
>
> FYI. Please see the link below. The mayor of Flint has requested the state provide assistance through a number of specific initiatives.
>
> http://www.mlive.com/news/flint/index.ssf/2015/01/flint_mayor_asks_governor_for.html
>
> As we are scheduled to participate in the meeting in Flint this evening please let me know if we need to further discuss these requests.
>
> Stephen Busch, P.E.
> Lansing and Jackson District Supervisor
> Office of Drinking Water and Municipal Assistance
> MDEQ
> 517-643-2314

From: Thelen, Mary Beth (DEQ)
Sent: Friday, January 23, 2015 12:04 PM
To: DEQ-EXE-800 Meeting Attendees;Feighner, Bryce (DEQ)
Cc: Willard, Veronica (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ);Wilcox, Candra (DEQ);Shaler, Karen (DEQ);Patterson, Leigh (DEQ)
Subject: Director's 8:00 Exec Team List for January 26, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-8:30 Executive meeting on January 26, 8:00. Bryce **is scheduled to attend the 8:00 to give us a quick update**. In addition Director may discuss these items at the 8:30 SMT meeting.

EXE
- Governor's State of the State
- Meet/Greet New Legislators and New Committees
- Director's Advisory Council
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, January 30, 2015 3:54 PM
To: DEQ-EXE-800 Meeting Attendees;Shekter Smith, Liane (DEQ)
Cc: Vaughn, Kari (DEQ);Wilcox, Candra (DEQ);Willard, Veronica (DEQ);Shaler, Karen (DEQ);Thelen, Mary Beth (DEQ);Patterson, Leigh (DEQ);Feuerstein, Heather (DEQ)
Subject: Director's 8:00 Exec Team List for February 2, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-9:30 Executive meeting on February 2, 2015. Liane **is scheduled to attend the 8:00 to give us updates on ODWMA issues**.

EXE
- Tribal Meeting on Feb. 4
- Meet/Greet New Legislators and New Committees
- Director's Advisory Council for February
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Tuesday, February 03, 2015 11:19 AM
To: Datema, Maggie (DEQ);Wyant, Dan (DEQ)
Cc: Busch, Stephen (DEQ)
Subject: FW: FDCVT - Preliminary Press Release Info
Attachments: Flint (Incinerator)_Redacted.pdf

-----Original Message-----
From: Cole, Evah (Treasury)
Sent: Tuesday, February 03, 2015 9:56 AM
To: Stanton, Terry A. (Treasury)
Cc: Connors, Paul (Treasury); Wurfel, Brad (DEQ); Kolka, Carolyn (Treasury)
Subject: RE: FDCVT - Preliminary Press Release Info

Terry,

Below is additional information regarding the Flint Incinerator also attached is the Incinerator application. Let us know if you need additional information. Thank you.

Flint Incinerator

The grant project entails shutting down the current Water Pollution Control Facility Incinerator (due to the incinerator not being up to new EPA standards). In order to meet EPA standards, it would cost roughly $8.8M in upgrades to the current incinerator. The grant funding will allow them to replace the functions of the old incinerator by constructing new facilities which will allow for the disposal of waste to landfills.

Budget Breakdown	
Construction Contractor	$1,050,000
Project Management	$50,000
Total	$1,100,000

-----Original Message-----
From: Stanton, Terry A. (Treasury)
Sent: Monday, February 02, 2015 4:54 PM
To: Cole, Evah (Treasury)
Cc: Connors, Paul (Treasury); Wurfel, Brad (DEQ)
Subject: Re: FDCVT - Preliminary Press Release Info

Dick now says he talked to Sheldon and he is all set for now. No meeting needed.

He did ask "how the $1.1m for the incinerator" can be used?

Please advise

From: Cole, Evah (Treasury)
Sent: Monday, February 2, 2015 4:03 PM
To: Stanton, Terry A. (Treasury)
Subject: RE: FDCVT - Preliminary Press Release Info

Ok Thanks for the info

From: Stanton, Terry A. (Treasury)
Sent: Monday, February 2, 2015 8:51 AM
To: Cole, Evah (Treasury)
Subject: Fw: FDCVT - Preliminary Press Release Info

Evah...

I may need you to attend a meeting with Dick Posthumus, Paul Connors and me...with Rep. Sheldon Neely from Flint sometime tomorrow.

Dick P is apparently working to schedule it. I will keep you posted as I can.

Thanks, Terry

From: Posthumus, Dick (GOV)
Sent: Monday, February 2, 2015 9:42 AM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

I will see about scheduling it tomorrow morning and get back with you

Sent from my iPhone

On Feb 2, 2015, at 9:40 AM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:

Dick...

Will the meeting with Rep Neely will be rescheduled? If so, I will need to pass word along to Brad at DEQ and my staff.

Thanks, Terry

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 4:06 PM
To: Stanton, Terry A. (Treasury)

Subject: Re: FDCVT - Preliminary Press Release Info

We should. Would you call him?

Sent from my iPhone

On Jan 30, 2015, at 4:02 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:

Do you want someone from DEQ also (Brad Wurfel?), given their relationship with the city on the water quality?

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 3:38 PM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

That and technical issues about the water

Sent from my iPhone

On Jan 30, 2015, at 3:32 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:
Will do. Safe to assume their questions revolve around the FDCVT grants?

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 3:16 PM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

I'll call him and get him there too. ThNks

Sent from my iPhone

On Jan 30, 2015, at 3:12 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:
I'd be happy to Dick, but would suggest that Paul Connors and someone from our Office of Revenue and Tax Analysis, who is very familiar with the grant process, etc. come over as well.

Terry

From: Posthumus, Dick (GOV)
Sent: Friday, January 30, 2015 2:43 PM
To: Stanton, Terry A. (Treasury)
Subject: Re: FDCVT - Preliminary Press Release Info

Terry
Are you available to meet with me and the two Representatives from Flint at 11 on Friday in Rep Sheldon"a office Dick

Sent from my iPhone

On Jan 30, 2015, at 1:46 PM, "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>> wrote:

TS

Begin forwarded message:
From: "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>>
Date: January 30, 2015 at 1:37:53 PM EST
To: "Murray, David (GOV)" <MurrayD1@michigan.gov<mailto:MurrayD1@michigan.gov>>, "Muchmore, Dennis (GOV)" <muchmored@michigan.gov<mailto:muchmored@michigan.gov>>, "Hollins, Harvey (GOV)" <hollinsh@michigan.gov<mailto:hollinsh@michigan.gov>>, "Clement, Elizabeth (GOV)" <clemente@michigan.gov<mailto:clemente@michigan.gov>>, "Wurfel, Sara (GOV)" <Wurfels@michigan.gov<mailto:Wurfels@michigan.gov>>
Subject: Fwd: FDCVT - Preliminary Press Release Info Here is the prelim grant spreadsheet.

TS

Begin forwarded message:
From: "Stibitz, Brom (Treasury)" <StibitzB@michigan.gov<mailto:StibitzB@michigan.gov>>
Date: January 30, 2015 at 10:22:36 AM EST
To: "Gelisse, Ashley (TREASURY)" <GelisseA@michigan.gov<mailto:GelisseA@michigan.gov>>
Cc: "Stanton, Terry A. (Treasury)" <StantonT@michigan.gov<mailto:StantonT@michigan.gov>>
Subject: FW: FDCVT - Preliminary Press Release Info Do we have any exposure here on grants we have turned down? IE do we have good reasons for the denials?

From: Cole, Evah (Treasury)
Sent: Friday, January 30, 2015 9:24 AM
To: Stibitz, Brom (Treasury); Koryzno, Edward (Treasury)
Cc: Kolka, Carolyn (Treasury)
Subject: FW: FDCVT - Preliminary Press Release Info

Brom & Ed,

Attached for your information is the listing of FDCVT grant awardees. We will be announcing the grants on Monday.

Any questions, let us know.

Thank you.

Evah
3-2864

From: Kolka, Carolyn (Treasury)
Sent: Thursday, January 29, 2015 4:58 PM
To: Allard, Claire (GOV); Stanton, Terry A. (Treasury)
Cc: Cole, Evah (Treasury)
Subject: RE: FDCVT - Preliminary Press Release Info

We have tweaked the descriptions and one funding item.

Carrie

From: Kolka, Carolyn (Treasury)
Sent: Thursday, January 29, 2015 4:37 PM
To: Allard, Claire (GOV); Stanton, Terry A. (Treasury)
Cc: Cole, Evah (Treasury)
Subject: FDCVT - Preliminary Press Release Info

Claire & Terry,

Attached is the preliminary press release for the Financially Distressed Cities, Villages, and Townships (FDCVT) Grant Program. The listing is sorted alphabetically by local unit.

We are awarding the full $8.0 million that was appropriated.

The tentative plan is to make an announcement on Monday, February 2.

Please let us know if you have any questions or concerns.

Carrie
241-7417
<FDCVT FY 15 - Preliminary Press Release Info 01 29 15.xlsx>

RECEIVED
OCT 31 2014
Office of Revenue & Tax Analysis

Application Due Date: October 31, 2014

Financially Distressed Cities, Villages, and Townships Application (FY 2015)

Issued under authority of 2014 Public Act 252.

PART 1: APPLICANT INFORMATION

1. Applicant Name	2. Applicant Local Unit Code
City of Flint	252040
3. Applicant FEIN: PPI	4. Applicant County: Genesee

5. Mailing Address	6. City	7. State	8. ZIP Code
1101 S. Saginaw St.	Flint	MI	48502

PART 2: PROPOSAL OVERVIEW

9. Proposal Title
Water Pollution Control Incinerator Shutdown

10. Estimated Start Date	11. Estimated Completion Date
09/01/2014	09/30/2015
12. Estimated Total Proposal Cost	13. Grant Amount Requested
$ 2,012,000.00	$ 1,412,000.00

14. Additional Local Units, if Participating in a Shared Service Project (include county and local unit code). **Attach letters of support from each of the participating local units.**
See attached.

15. Is the applicant(s) willing to devote appropriate resources and time to this proposal?

☒ Yes ☐ No If no, explain why the applicant(s) is unable to devote appropriate resources and time to the proposal.

PART 3: PROPOSAL CONTACT INFORMATION

Note: The proposal contact individual should be a vital part of the grant proposal and will be the Michigan Department of Treasury's contact.

16. Contact Name	17. Contact Title
Howard Croft	Director of Department of Public Works
18. Contact Telephone Number	19. Contact Fax Number
(810) 237-2043	(810) 766-7218

20. Contact E-mail Address
hcroft@cityofflint.com

21. Contact Entity Name
City of Flint

PART 4: CONDITIONS OF PROBABLE FINANCIAL DISTRESS

22. Indicate the conditions affecting the applicant that indicate probable financial distress (check all that apply and **attach proof of existence for each condition checked**).

☐ 1. The governing body or the chief administrative officer of the city, village or township has requested a preliminary review. The request shall be in writing and shall identify the existing or anticipated financial conditions or events that make the request necessary.

☐ 2. The state financial authority has received a written request from a creditor with an undisputed claim that remains unpaid 6 months after its due date against the city, village, or township that exceeds the greater of $10,000.00 or 1% of the annual general fund budget of the city, village, or township, provided that the creditor has notified the city, village or township in writing at least 30 days before the creditor's request to the state financial authority of the creditor's intention to submit a written request.

☐ 3. The state financial authority has received a petition containing specific allegations of financial distress signed by a number of registered electors residing within the city's, village's, or township's jurisdiction equal to not less than 5% of the total vote cast for all candidates for governor within the city's, village's, or township's jurisdiction at the last preceding election at which a governor was elected. The petition shall not have been filed within 60 days before any election of the city, village, or township.

☐ 4. The state financial authority has received a written notification that the city, village, or township has not timely deposited its minimum obligation payment to the city's, village's, or township's pension fund, as required by law.

CITY OF FLINT

OFFICE OF THE EMERGENCY MANAGER

Darnell Earley, ICMA-CM, MPA
Emergency Manager

October 30, 2014

Michigan Department of Treasury
Office of Revenue and Tax Analysis
P.O. Box 30722
Lansing, MI 48909

County: Genesee Local Unit Code: 252040

Please accept this letter as the City of Flint's commitment for the Michigan Department of Treasury Financially Distressed Cities, Villages, and Townships Grant Program. I am in full support of implementing the Water Pollution Control Incinerator Shutdown Project.

The City of Flint needs to implement this project to realize a net $400,000 in annual savings from reduced purchase of natural gas, reduced maintenance and the avoidance of costly federally mandated incinerator upgrades. This savings will strengthen the Sewer Enterprise Fund and provide the capability for necessary investment in the water pollution control infrastructure.

I am committed to ensuring the success and sustainability of this initiative.

Sincerely,

Darnell Earley, ICMA-CM, MPA
Emergency Manager

PART 4: CONDITIONS OF PROBABLE FINANCIAL DISTRESS, CONTINUED

- ☐ 5. The state financial authority has received a written notification that the city, village, or township has failed for a period of 7 days or more after the scheduled date of payment to pay wages and salaries or other compensation owed to employees or benefits owed to retirees.
- ☐ 6. The state financial authority has received a written notification from a trustee, paying agent, bondholder, or auditor engaged by the city, village, or township of a default in a bond or note payment or a violation of 1 or more bond or note covenants.
- ☐ 7. The state financial authority has received a resolution from either the senate or the house of representatives requesting a preliminary review of the city, village, or township.
- ☐ 8. The city, village, or township has violated a requirement of, or a condition of an order issued pursuant to, former 1943 PA 202, revenue bond act of 1933, 1933 PA 94, MCL 141.101 to 141.140, the revised municipal finance act, 2001 PA 34, MCL 141.2101 to 141.2821, or any other law governing the issuance of bonds or notes.
- ☐ 9. The city, village, or township has violated the conditions of an order issued by the local emergency financial assistance loan board pursuant to the emergency municipal loan act, 1980 PA 243, MCL 141.931 to 141.942.
- ☐ 10. The city, village, or township has violated a requirement of sections 17 to 20 of the uniform budgeting and accounting act, 1968 PA 2, MCL 141.437 to 141.440.
- ☐ 11. The city, village, or township has failed to timely file an annual financial report or audit that conforms with the minimum procedures and standards of the state financial authority and is required for cities, villages, and townships under the uniform budgeting and accounting act, 1968 PA 2, MCL 141.421 to 141.440a.
- ☐ 12. The city, village, or township is delinquent in the distribution of tax revenues, as required by law, that it has collected for another taxing jurisdiction, and that taxing jurisdiction requests a preliminary review.
- ☐ 13. The city, village, or township is in breach of its obligations under a deficit elimination plan or an agreement entered into pursuant to a deficit elimination plan.
- ☐ 14. A court has ordered an additional tax levy without the prior approval of the governing body of the city, village, or township.
- ☒ 15. The city, village, or township has ended a fiscal year in a deficit condition as defined in section 21 of the Glenn Steil state revenue sharing act of 1971, 1971 PA 140, MCL 141.921, or has failed to comply with the requirements of that section for filing or instituting a financial plan to correct the deficit condition.
- ☐ 16. The city, village, or township has been assigned a long-term debt rating within or below the BBB category or its equivalent by 1 or more nationally recognized credit rating agencies.
- ☒ 17. There is an existence of other facts or circumstances that, in the state treasurer's sole discretion for a city, village or township, are indicative of probable financial stress. (See attached, additional information)

PART 5: PROPOSAL DETAILS

23. Describe Current Services: What is working well? What is not working?

See attached.

24. Describe Strategy, Project, or Service Proposal:

See attached.

Water Pollution Control Incinerator Shutdown Project Grant Application

Supplemental Responses

Part 4 Question 17.

The City of Flint has been in receivership since December 2011. At that time the State of Michigan Financial Review Team found:

- The City has a general fund deficit of $14,621,546 as of June 30, 2010 which was not eliminated within the two year preceding period.
- The City previously submitted a five year deficit elimination plan for a cumulative general fund deficit of $7,046,820 as of June 30, 2008. However, by June 30, 2010 the cumulative general fund deficit had grown to $14,621,546. An updated plan submitted for 2010 does not purport to eliminate the cumulative deficit until 2030 and that relies upon the issuance of an additional $12 million of debt in 2013.
- A structural operating deficit existed in the general fund as of June 30, 2007, 2008, 2009, 2010 and the general fund is projected to have a $6,768,864 deficit as of June 30, 2011.

The Comprehensive Annual Financial Report for the Fiscal Year ended June 30, 2011 was received in December 2011. The City's General Fund, which had a $14.6 million deficit at the beginning of the year, ended it with an $8.9 million deficit. The reduction in the deficit was due solely to an $8 million Fiscal Stabilization Bond issued by the city in March 2011. In total, excluding the impact of the FSB proceeds and the Genesee Towers judgment levy, expenses in the General Fund exceeded revenues.

The City's Water Supply and Sewage Disposal systems also reported losses of $6.6 million and $14.1 million respectively. Increases in water and sewer fees have been implemented since the end of the fiscal year in an effort to forestall additional losses. However, the increases do not appear sufficient to address past deficits.

The City had actuarial accrued liability for post-employment benefits other than pension (OPEB) of $862 million at June 30, 2011. Currently, the City is operating on a pay-as-you-go basis. In FY11, $19.6 million was spent on premiums for health care, compared to the recommended amount of $61.4 million.

The Auditors comments continued to note concerns with cash flow and with the timeliness of certain account and bank reconciliations.

Part 5. Question 23

Describe Current Services. What is working well? What is not working?

The City of Flint's Water Pollution Control Facility utilizes a sewage sludge incinerator to combust the organic solid or semi-solid by-product of the sewage treatment process for the purpose of reducing the volume of sludge to an ash end product. Incineration is a sludge disposal method that involves firing of

sewage by-product at high temperatures in an enclosed structure. All sludge incinerators use auxiliary fuel (natural gas) for burning. The incinerator is a highly mechanized system of burning and air pollution control that must be managed with a high level of expertise and maintenance. The cost of natural gas has continued to increase. This is a high cost operation for process operator labor and maintenance personnel. New Environmental Protection Agency requirements for incinerator emission limits and operator training must be in compliance by May 2016 following approval of a State plan. In order to meet the new compliance standards capital expenditures must be made which will total $8.75million.

Question 24.

Describe strategy, Project or Service Proposal

The City of Flint has chosen to avoid the costly upgrades required to comply with the new EPA regulations by shutting down the incinerator process and to build a load-out facility which will landfill (Type II Landfill) the sewage sludge by-product and eventually to develop a land application process for the sewage sludge. This project includes the construction of a new biosolids loading building (BLB) – see attached Water Pollution Control Facility drawing, and the proposed load out facility drawing. This project will include the provision of equipment in both the new building and an existing dewatering building to enable conveyance and loading of biosolids cake into trucks or large roll-off containers. Major pieces of equipment will be supplied by the City, such as conveyance equipment in the new building and the existing dewatering building, and biosolids cake pumps to be used to move the cake from the dewatering to the BLB. The existing biosolids dewatering and incineration must be kept functional and in operation during construction. As an end result the incinerator can be shut down and the maintenance staff can be reduced.

Part 5 Question 30

Detailed List of proposed expenditures. Explain how the expenditures support and are essential to the proposal.

Construction Contractor $1,362,000

See Bid Tabulation Sheet – tasks described, includes cost per task and estimated time to completion for each task. This is the construction work necessary to implement the incinerator shutdown.

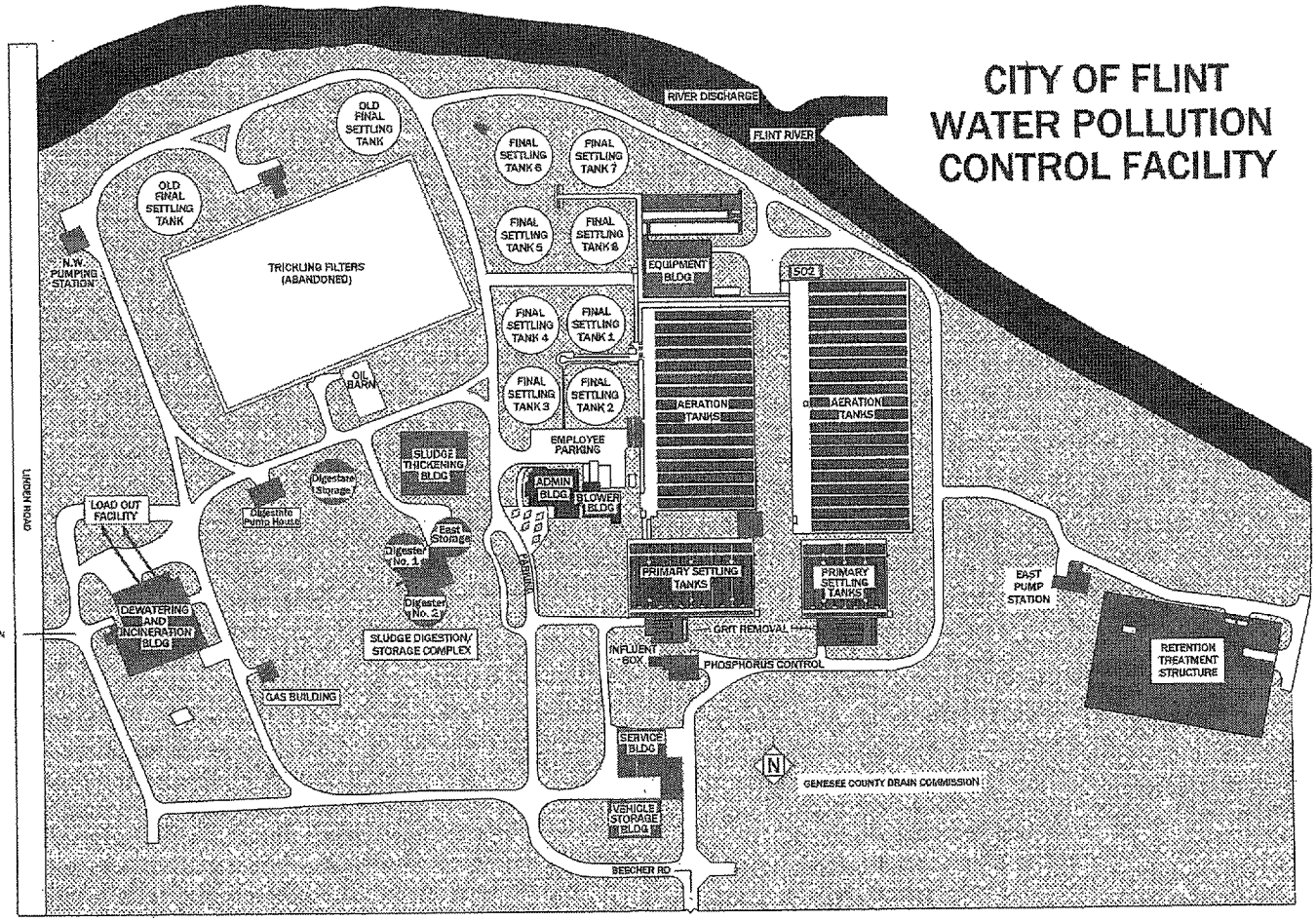
Capital Equipment $600,000

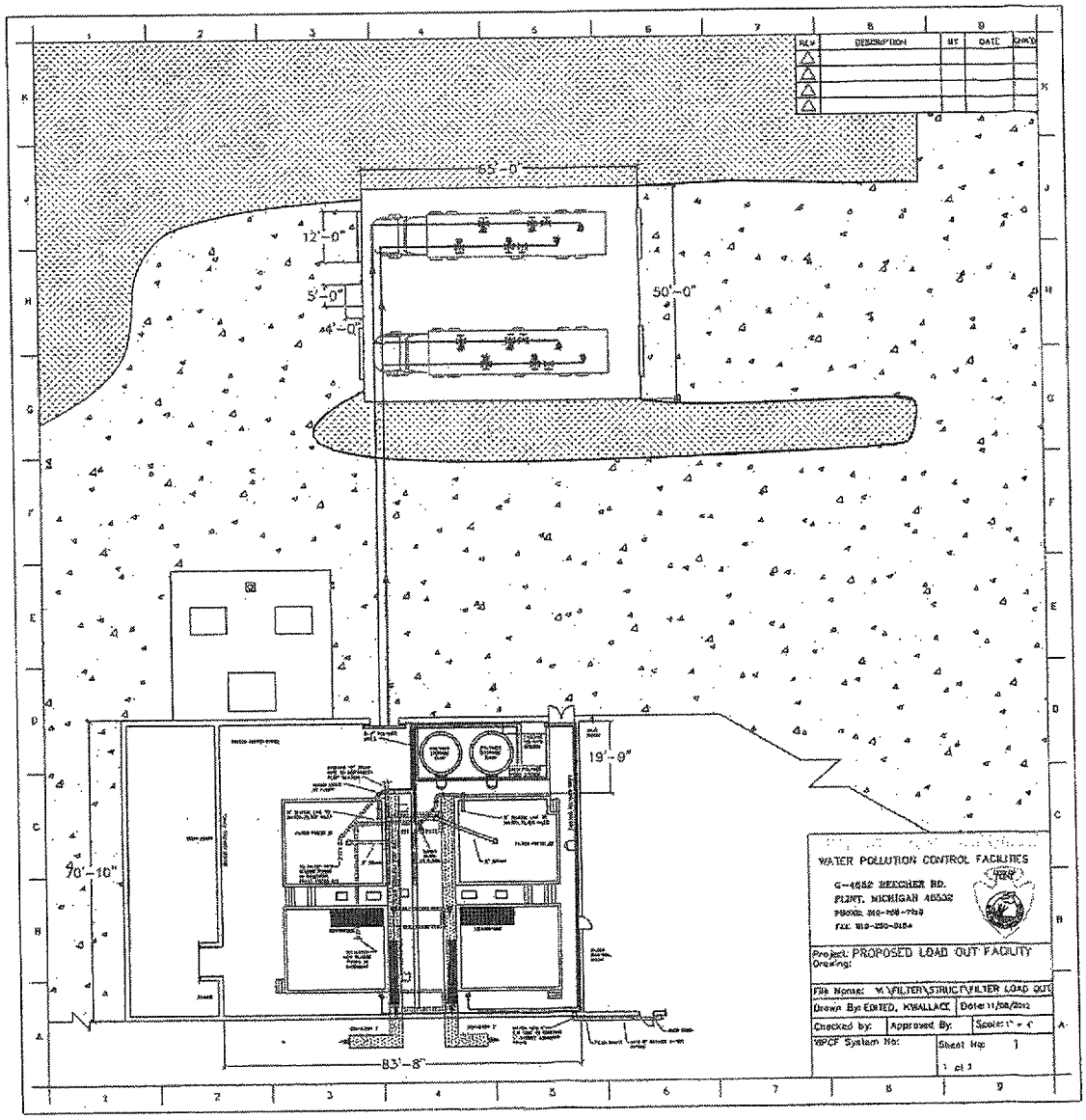
The City of Flint is providing capital equipment needed for this project, including conveyance equipment in the new building and the existing dewatering building; also the biosolid cake pumps which will move the cakes to the biosolids load building (load-out facility).

Project Management $50,000

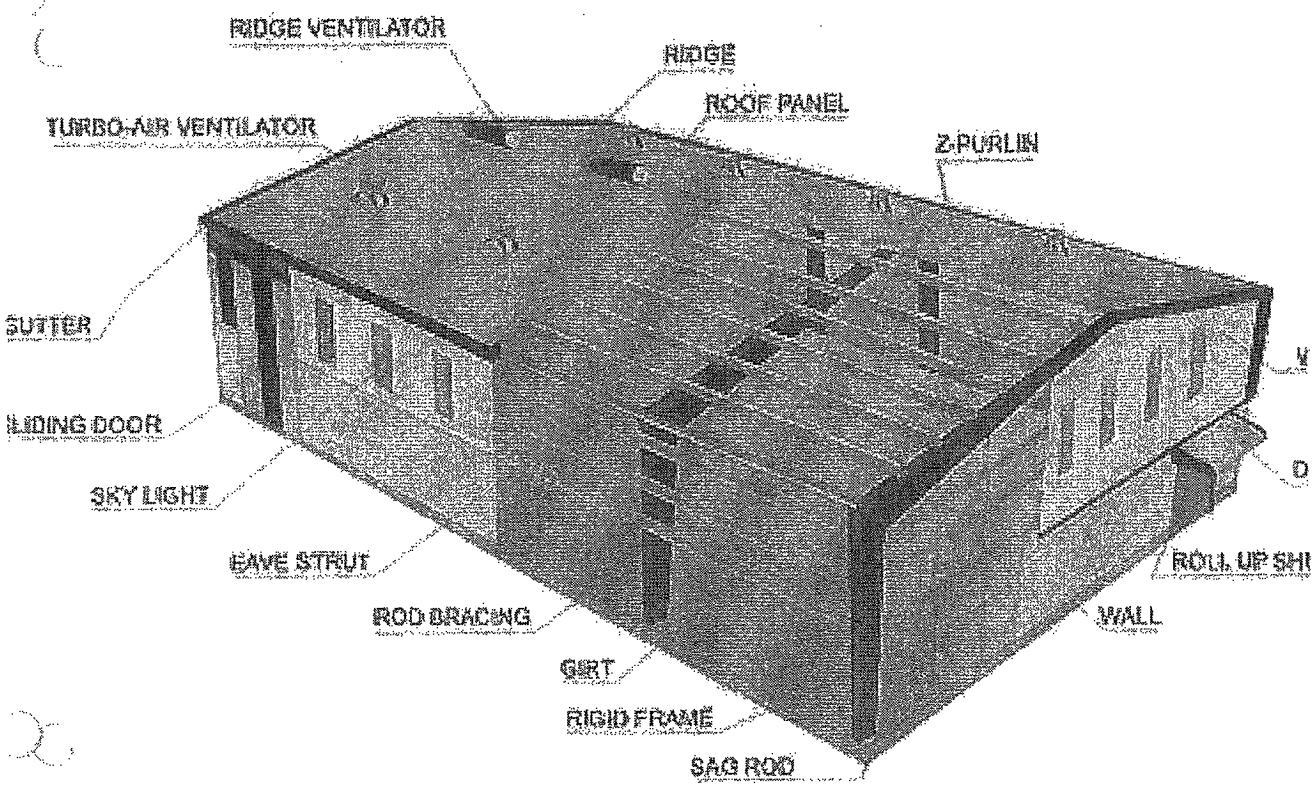
The City does not have an in-house City Engineering staff; project management is therefore contracted with a local engineering firm. The engineer will be responsible for project oversight and necessary reporting.

CITY OF FLINT WATER POLLUTION CONTROL FACILITY




65'-0"
12'-0"
5'-0"
44'-0"
50'-0"
19'-9"
70'-10"
83'-8"
WATER POLLUTION CONTROL FACILITIES
G-4552 BEECHER RD.
FLINT, MICHIGAN 48532
Project: PROPOSED LOAD OUT FACILITY
Drawing:
File Name: M:\FILTER\STRUCT\FILTER LOAD OUT
Drawn By: EDITED, KWALLACK
Checked by:
Approved By:
WPCF System No:
Sheet No: 1

Pre-Engineering Building



Question 28 C Calulations of Cost Savings

		Incinerator Current Process	Incinerator W/ Required Upgrades	Biosolids w/ Load-Out Facility
Operations Personnel		$312,523	$375,027	$109,383
Maintenance Personnel		$56,098	$49,086	$14,024
Electrical Personnel		$7,487	$7,487	$4,492
Natural Gas		$215,000	$215,000	$0
Electricity		$127,000	$127,000	$30,000
Speciality Contracted Services		$15,000	$15,000	
Landfill Contract		$60,000	$60,000	$250,000
Repair Parts		$30,000	$30,000	$30,000
CEMS Monitoring Supplies		$7,947	$70,000	$0
Process Chemicals		$50,050	$70,000	$50,050
Annual Emissions Testing			$120,000	
Operator Training and Certif.			$20,000	
Recordkeeping and Reporting			$40,000	
	TOTALS Per Year Expenses	**$881,105** (See Chart #1)	**$1,198,600** (See Chart #2)	**$487,949** (See Chart #3)
Capital Expenses			$8,750,000 (see Chart #4)	$1,976,000 (See Attached Bid Tabulation + $600,000 City supplied capital equipment + $50,000 project mgt.)

Summation:

There is an annual savings of **$393,156** by changing from current incinerator process to the load-out facility and closing the incinerator. This is the annual long term savings.

There is an annual cost avoidance savings of **$317,495** comparing the current incinerator process to the upgraded incinerator.

Additionally, there is a **$6,738,000** project cost avoidance by not upgrading the incinerator and instead building the load-out facility. This is the short term savings.

5 Year Total Savings = $6,738,000 (Yr 1) + (4 x $393,156) (Yr 2-5) = $8,310,624

City of Flint
WATER POLLUTION CONTROL DIVISION

Incineration Processing Cost Estimate 2014

Current: O+M Only

DESCRIPTION	COST					
	Per Year*				Per Day	
Operations Personnel	$ 312,522.86	$ 22.00	shifts per week	$	856.23	
Maintenance Personnel	$ 56,097.95	$ 4.00	shifts per week	$	153.69	
Electrical Personnel	$ 7,486.82	$ 0.50	shifts per week	$	20.51	
Natural Gas	$ 215,000.00		FY 2014 Usage	$	589.04	
Electricity	$ 127,000.00			$	347.95	
Specialty Contracted Services	$ 15,000.00			$	41.10	
Repair Parts	$ 30,000.00			$	82.19	
CEMS Monitoring Supplies	$ 7,947.00			$	21.77	
Process Chemicals	$ 50,049.60		FBP Polymer	$	137.12	
Total Cost of Incineration	$ 821,104.22			$	2,249.60	
Sludge Processed (Wet Tons)	10,870		per calendar year		29.8	per calendar day
COST OF INCINERATION per WET TON OF SLUDGE				$	75.54	per WT

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Chart #1

City of Flint
WATER POLLUTION CONTROL DIVISION

Incineration Processing Cost Estimate 2016

DESCRIPTION	COST Per Year*			Per Day	
Operations Personnel (full staff)	$ 375,027.43	$ 22.00	shifts per week	$ 1,027.47	
Maintenance Personnel	$ 49,085.70	$ 3.50	shifts per week	$ 134.48	
Electrical Personnel	$ 7,486.82	$ 0.50	shifts per week	$ 20.51	
Natural Gas	$ 215,000.00		FY 2014 Usage	$ 589.04	
Electricity	$ 127,000.00			$ 347.95	
Specialty Contracted Services	$ 15,000.00			$ 41.10	
Mechanical and Instrumentation Par	$ 60,000.00			$ 164.38	
CEMS Monitoring and Supplies	$ 70,000.00			$ 191.78	
Process Chemicals	$ 70,000.00		FBP Polymer	$ 191.78	
Ash Disposal	$ 60,000.00			$ 164.38	
NEW REQUIREMENTS					
Annual Emission Testing	$ 120,000.00				
Operator training and Certification	$ 20,000.00				
Recordkeeping and Reporting	$ 40,000.00				
Total Cost of Incineration	$ 1,228,599.95			$ 3,366.03	
Sludge Processed (Wet Tons)	10,870		per calendar year	29.8	per calendar day
COST OF INCINERATION per WET TON OF SLUDGE				$ 113.03	per WT

RJC 10-28-14
orig - 03/18/2013

Chart #2

City of Flint
WATER POLLUTION CONTROL DIVISION

Biosolids Landfilling Cost Estimate 2016

Future Proj.: O+M Only

DESCRIPTION	COST Per Year*			Per Day	
Operations Personnel	$ 109,383.00	$ 7.00	shifts per week	$ 299.68	
Maintenance Personnel	$ 14,024.49	$ 1.00	shifts per week	$ 38.42	
Electrical Personnel	$ 4,492.09	$ 0.30	shifts per week	$ 12.31	
Natural Gas	$ -			$ -	
Electricity	$ 30,000.00			$ 82.19	
Landfill Contract Tip and Haul Service	$ 250,000.00			$ 684.93	
Repair Parts	$ 30,000.00			$ 82.19	
CEMS Monitoring Supplies	$ -			$ -	
Process Chemicals	$ 50,049.60		FBP Polymer	$ 137.12	
Total Cost of Incineration	$ 487,949.18			$1,336.85	
Sludge Processed (Wet Tons)	10,870		per calendar year	$29.78	per calendar day
COST OF INCINERATION per WET TON OF SLUDGE				$ 44.89	per WT

Loadout Facility

RJC 10-28-14
orig - 9/10/2013

Chart #3

Required Upgrades: Part 60

City of Flint
WATER POLLUTION CONTROL DIVISION

Incineration Cost Study:

Projected Regulatory Compliance Expenses for New MACT Standards

The following are major capital expense estimates to comply with new incinerator emissions regulations under Section 129 of the Clean Air Act. (40 CFR Part 60, Subpart MMMM).

DESCRIPTION	ESTIMATED COST
Upgraded more powerful ID Fans	$ 480,000.00
VenturiPak and Other Scrubber Add-ons	$ 6,400,000.00
Low Nox Burners	$ 560,000.00
Upgraded Instrumentation and Controls	$ 320,000.00
New CEMS (Emission Monitors)	$ 480,000.00
Emissions Testing - Startup	$ 160,000.00
Operator Training	$ 50,000.00
New Permit (Title V) Preparation	$ 60,000.00
Administration and Engineering	$ 240,000.00
Total Cost of Incinerator Upgrades for Part 60 MMMM Compliance	$ 8,750,000.00

REQUIREMENT / TABULATION

Bidder herby agrees to complete the Work in accordance with the Contract Documents for the following lump sum price(s):

TASK	GENERAL DESCRIPTION	ESTIMATED TIME TO COMPLETE	COST
1	Installation of two new Owner-supplied progressive cavity cake pumps for dewatered biosolids.	6 wks.	91,902.00
2	Modification of existing conveyor belts.	1 wk.	28,553.00
3	Installation of Owner-supplied new screw conveyors in the Dewatering Building.	4 wks.	54,878.00
4	Installation of a piping system to conduct the biosolids from the dewatering building to the new building.	14 wks.	217,755.00
5	Construction of a new building to house truck loading equipment for the biosolids.	18 wks.	745,122.00
6	Installation of Owner-supplied new screw conveyors in the new building.	5 wks.	67,150.00
7	Site improvements to facilitate trucking of the biosolids off plant grounds, including a new automatic gate and paving work.	1 wk.	156,740.00
100% Complete		GRAND TOTAL	$ 1,362,000.00

Bidder certifies that:

This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

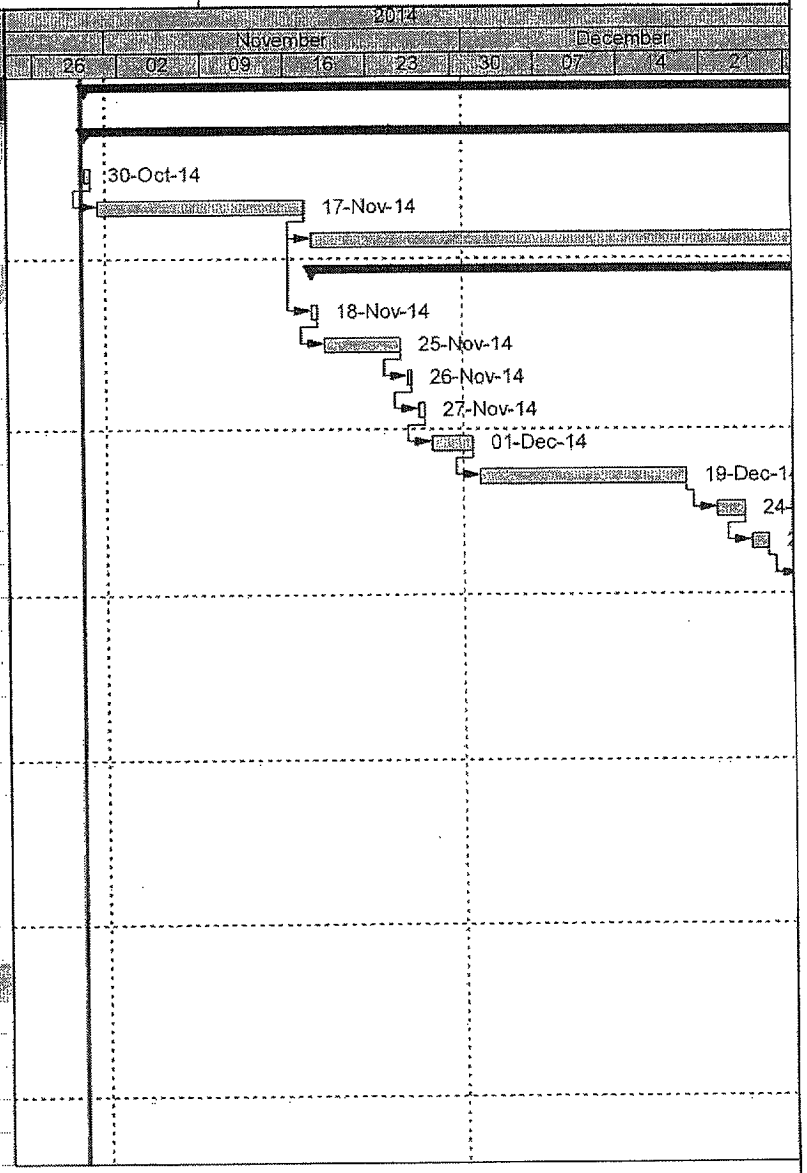
Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

Bidder has not solicited or induced any individual or entity to refrain from bidding; and

Alt. #1 : Deduct $20,500 -

City of Flint Bio-Solids Building | Classic WBS Layout w/ 3 line timescale | 30-Oct-14 09:34

Activity ID	Activity Name	Start	Finish
City of Flint Bio-Solids Building		30-Oct-14	13-Oct-15
Pre-Construction		30-Oct-14	03-Feb-15
A1000	Pre Construcion Meeting	30-Oct-14	30-Oct-14
A1010	Submittals	31-Oct-14	17-Nov-14
A1020	Building Procurement	18-Nov-14	03-Feb-15
Phase #1 Construction		18-Nov-14	27-Jan-15
A1030	Mobilization	18-Nov-14	18-Nov-14
A1040	Site Clearing	19-Nov-14	25-Nov-14
A1050	Sesc Measures	26-Nov-14	26-Nov-14
A1060	Cut Site to Proposed Depth	27-Nov-14	27-Nov-14
A1070	Layout	28-Nov-14	01-Dec-14
A1080	Site Piping	02-Dec-14	19-Dec-14
A1090	Bore For Casons	22-Dec-14	24-Dec-14
A1100	Set Resteel	25-Dec-14	26-Dec-14
A1110	Pour Casons	29-Dec-14	31-Dec-14
A1120	Form Footing	01-Jan-15	01-Jan-15
A1130	pour Footings	02-Jan-15	02-Jan-15
A1140	Cure	05-Jan-15	07-Jan-15
A1150	Form Foundations	08-Jan-15	09-Jan-15
A1160	Pour Foundations	12-Jan-15	12-Jan-15
A1170	Cure	12-Jan-15	14-Jan-15
A1180	Backfill	15-Jan-15	16-Jan-15
A1190	Form Slab	19-Jan-15	19-Jan-15
A1200	Pour Slab	20-Jan-15	21-Jan-15
A1210	Cure	22-Jan-15	26-Jan-15
A1230	Cover Slab until Spring	27-Jan-15	27-Jan-15
Phase #2 Construction		18-Mar-15	28-Sep-15
A1240	Erect Steel Building	18-Mar-15*	28-Apr-15
A1250	Masonry	29-Apr-15	04-May-15
A1260	Form Approns	05-May-15	06-May-15
A1270	Pour Approns	07-May-15	07-May-15
A1280	COld Mill Site	08-May-15	12-May-15

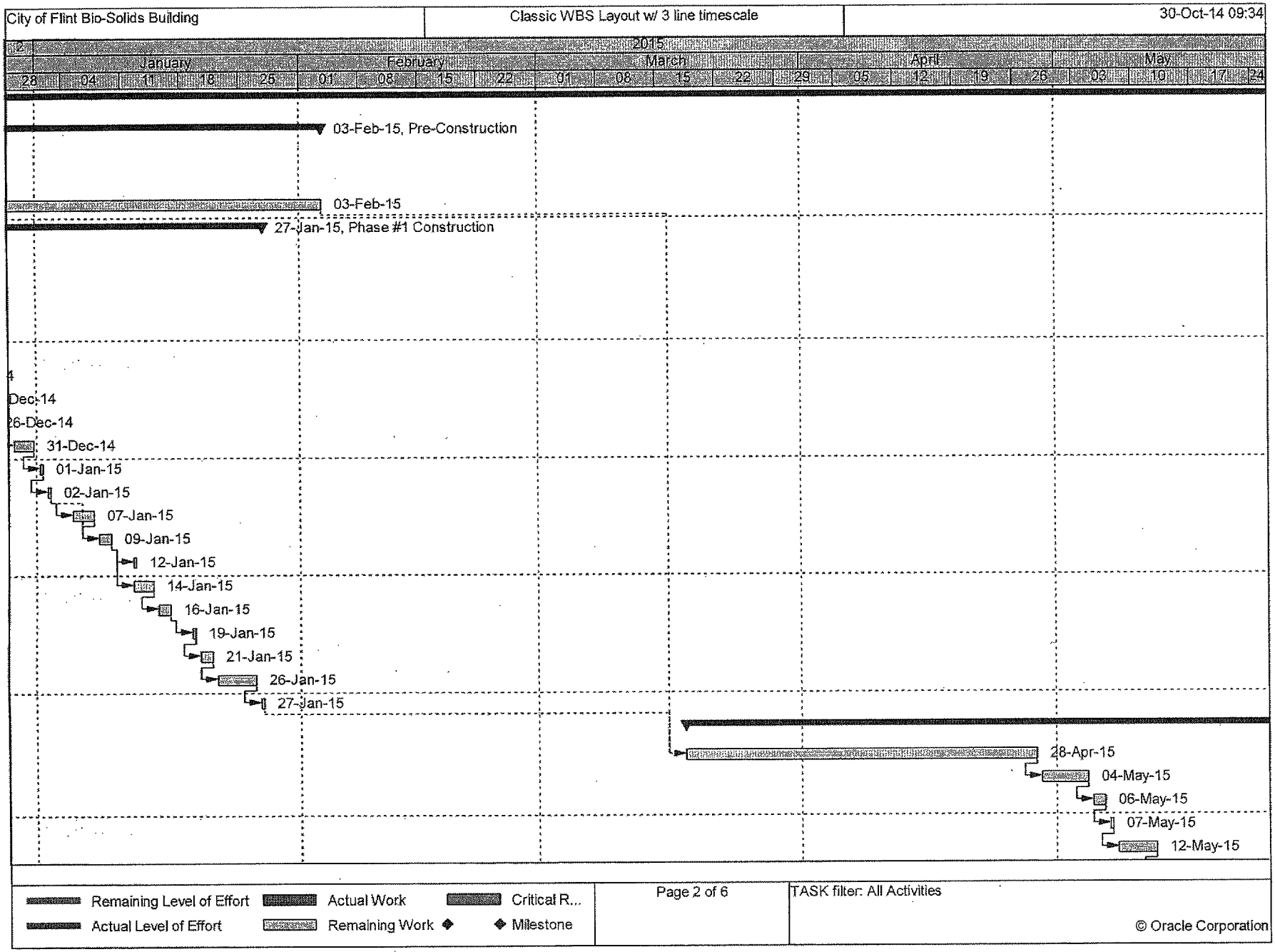


Remaining Level of Effort | Actual Work | Critical R...
Actual Level of Effort | Remaining Work | Milestone

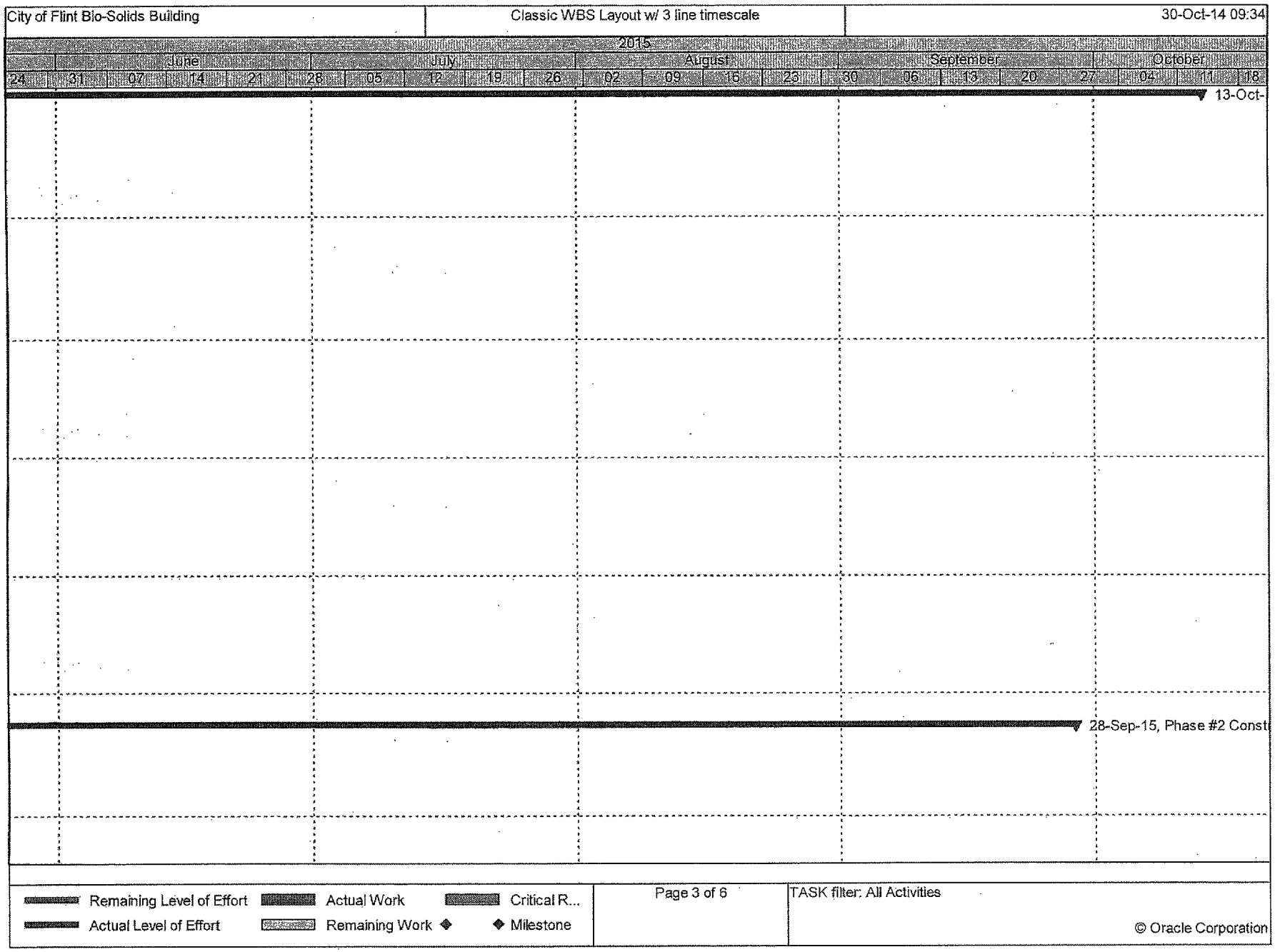
TASK filter: All Activities

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WORK PLAN p. 1 of 6



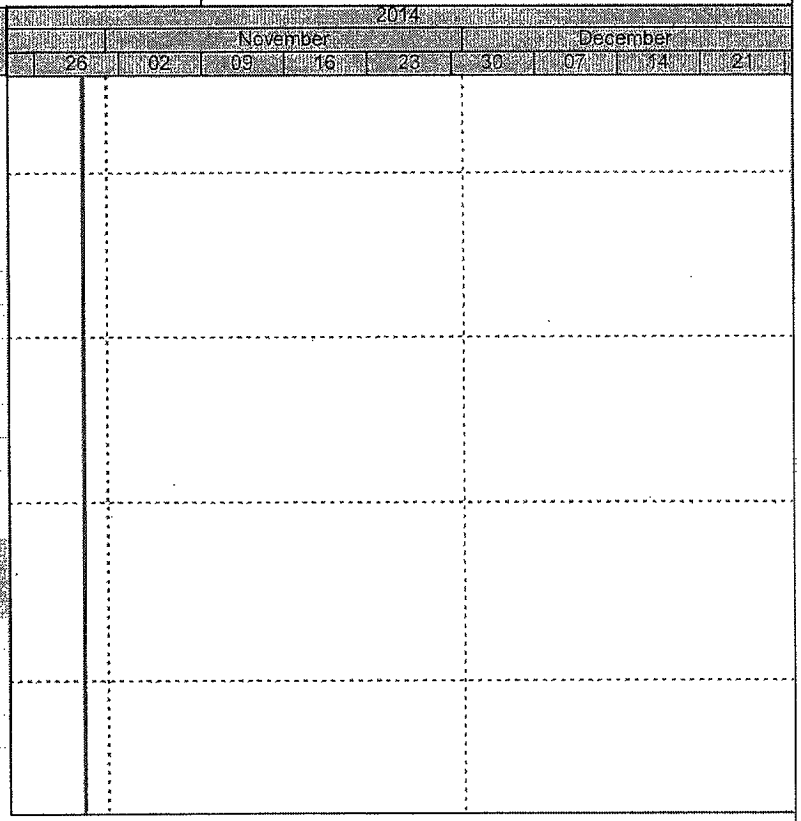
WORK PLAN p. 2 of 6



WORKPLAN p. 3 of 6

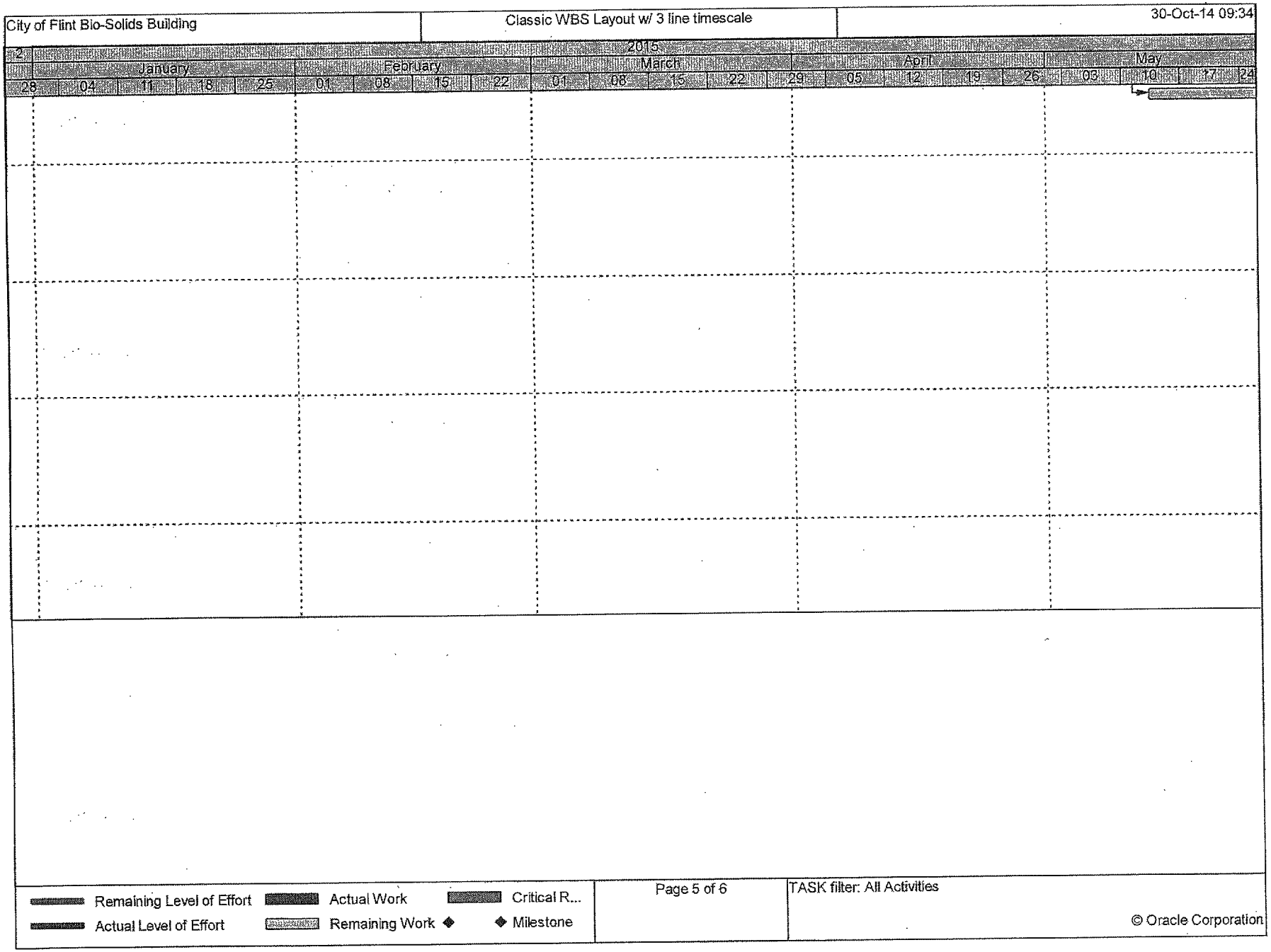
City of Flint Bio-Solids Building	Classic WBS Layout w/ 3 line timescale	30-Oct-14 09:34

Activity ID	Activity Name	Start	Finish
A1290	Structural Steel Mezzanine	13-May-15	28-May-15
A1300	Install owner supplied Pumps	29-May-15	25-Jun-15
A1310	Install Screw Conveyor system	26-Jun-15	16-Jul-15
A1320	Rough Electrical	17-Jul-15	30-Jul-15
A1330	Rough Plumbing	31-Jul-15	20-Aug-15
A1340	GHU Unit	21-Aug-15	25-Aug-15
A1350	Set Overhead Doors	26-Aug-15	27-Aug-15
A1360	Set Man Doors	28-Aug-15	28-Aug-15
A1370	Painting	31-Aug-15	02-Sep-15
A1380	Start Up of New System	03-Sep-15	09-Sep-15
A1390	Demo Existing	10-Sep-15	16-Sep-15
A1400	Asphalt	17-Sep-15	22-Sep-15
A1410	Site Resotration	23-Sep-15	24-Sep-15
A1420	New Gate	25-Sep-15	28-Sep-15
Site Work			
Substantial Completion		29-Sep-15	13-Oct-15
A1430	Substaintal Completion	29-Sep-15	29-Sep-15
A1440	Walk Through	30-Sep-15	30-Sep-15
A1450	Punch List	01-Oct-15	07-Oct-15
A1460	Final Completion	12-Oct-15	12-Oct-15
A1470	Training	08-Oct-15	09-Oct-15
A1480	Closeout Docs	13-Oct-15	13-Oct-15

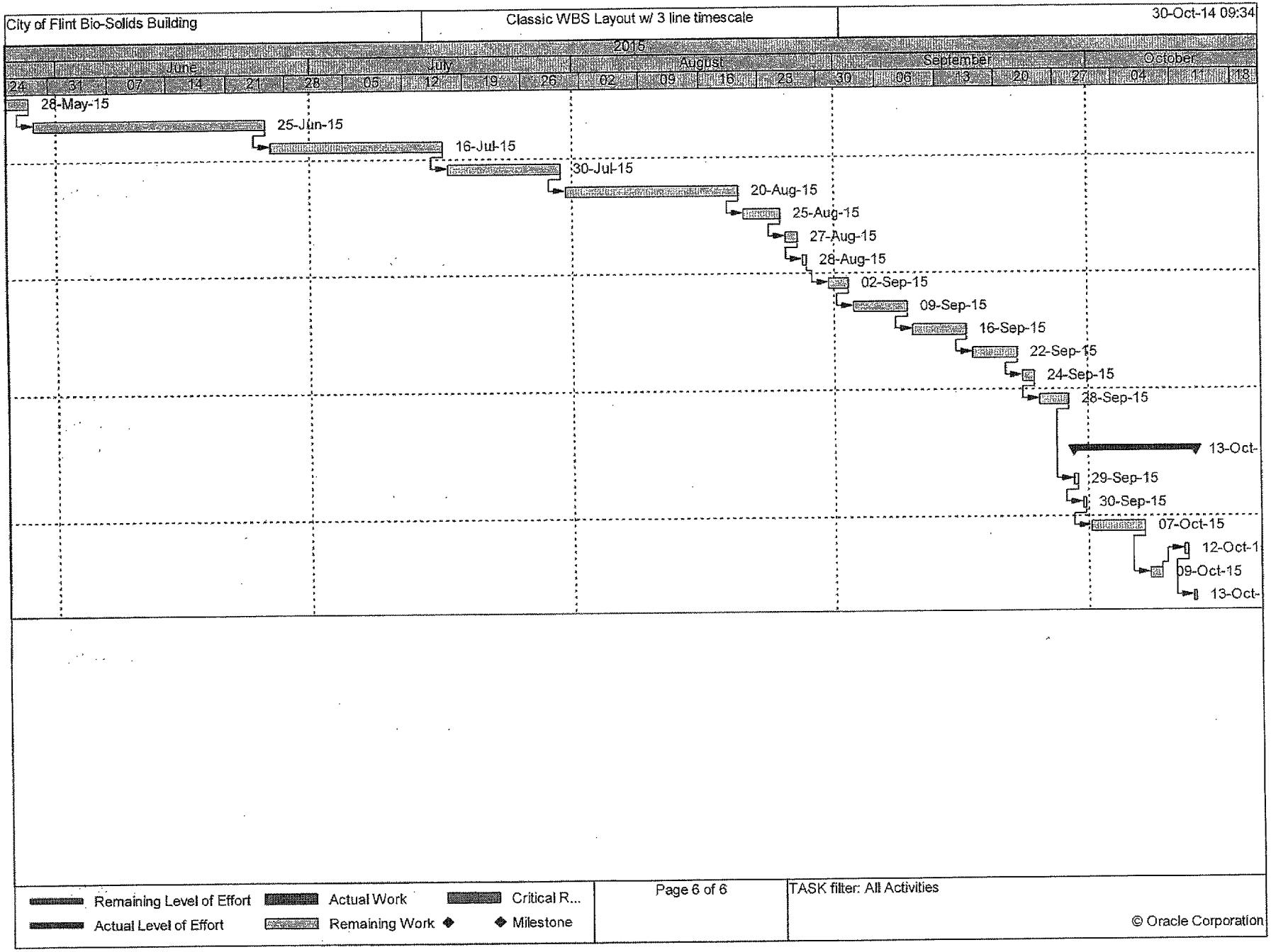


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WORK PLAN D.4 of 6



WORKPLAN P. 5 of 6



WORK PLAN 0.6 of 6

PART 5: PROPOSAL DETAILS, CONTINUED

25. Describe How Grant Funding will Lead the Applicant Toward Financial Stability:

The Water Pollution Control Facility is funded through the Sewage Enterprise Fund which receives revenue via residential water bills and commercial sewage strength calculations and billing. The fund has been replenished in recent years, though significant rate increases were required to do so. The City seeks savings in operations to decrease expenditures, realize savings and stabilize rates. Maintaining a healthy fund balance allows the City the opportunity to make needed investments in the water pollution control infrastructure.

26. Goals, Measures, and Business Objectives of this Proposal: What are the outcomes you hope to achieve? How will you measure the outcomes? Provide the measures which will be used to determine the success of the proposal.

The goal is shut down of the Water Pollution Control Facility incinerator. This shut down will mean an immediate savings in natural gas purchase, a reduction in maintence staff and the cost avoidance of a very expensive EPA compliance requirement. Savings will be reflected in the quarterly budget expense reports and year over year expense comparisons.

27. Potential Barriers: Describe any barriers that currently exist that may have an impact on the implementation of the proposal.

The City has sent requests for proposals; this was followed by selecting a construction vendor and executing a contract. Seven task areas were identified and the estimated completion time and costs for each task is attached as part of Question #29. As the end of the 2014 construction season is approaching the vendor has been encouraged to get outdoor work underway as quickly as possible. At this point it is still expected that the project can be completed and be fully operational by December 1, 2015.

28. Cost Savings: Will the proposal save money? ☒ Yes ☐ No

A. SHORT-TERM (1 year or less) ☒ Yes ☐ No	Estimated Short-Term Savings	$ 6,738,000.00
B. LONG-TERM (Greater than 1 year) ☒ Yes ☐ No	Estimated Annual Long-Term Savings	$ 393,156.00
	Estimated 5 Year Total Savings	$ 8,310,624.00

C. Did you attach a detailed calculation of the cost savings and provide an explanation of how the cost savings were calculated?

☒ Yes ☐ No

29. Work Plan and Proposal Timeline: What are the implementation steps to ensure this proposal's success? What are the projected outcomes at each step?

See attached Workplan - 6 pages:

PART 5: PROPOSAL DETAILS, CONTINUED

30. Total Grant Budget Worksheet: For each budget category, attach a detailed list of proposed expenditures. Explain how the expenditures support and are essential to the proposal.

Budget Category	Estimated Total Proposal Cost	Grant Budget Amount Requested (Total Limited to $2.0 million)
Construction Contractor	$ 1,362,000.00	$ 1,362,000.00
Capital Equipment (COF)	$ 600,000.00	$ 0.00
Project Management	$ 50,000.00	$ 50,000.00
	TOTAL ESTIMATED PROPOSAL COST $ 2,012,000.00	TOTAL GRANT AMOUNT REQUESTED $ 1,412,000.00

31. Additional Information and Comments:

Attachments also include the request for proposal project requirements, the summary of EPA Regulations Controlling Air Emissions from Sewage Sludge Incinerators, and a letter of support from Flint's State Senator Jim Ananich.

PART 6: CERTIFICATION

32. I certify that all statements in this application, including all requested supplemental information, are true, complete and accurate to the best of my knowledge. If awarded, I agree to allow the Michigan Department of Treasury and the State Auditor General's Office (and/or any of their duly authorized representatives) access, for the purposes of inspection, audit, and examination, to any books, documents, papers, and records of the grantee which are related to this proposal. I agree to allow the Michigan Department of Treasury to conduct periodic program reviews of the proposal. The purpose of these reviews will be to determine adherence to stated proposal goals and to review progress of the proposal in meeting its objectives. I agree to submit semiannual and final narrative and financial status reports and a one-year Final Follow-up Report to the Michigan Department of Treasury. I understand that failure to submit any required reports may result in the termination of the grant. I understand that this grant may be terminated if the Michigan Department of Treasury concludes that I am not in compliance with the conditions and provisions of this grant, or have falsified any information. By way of signature, I agree with all conditions of this grant program.

Applicant's Chief Administrative Officer Signature (as defined in MCL 141.422b)	Date
Darnell Earley	10-31-2014
Printed Name of Applicant's Chief Administrative Officer (as defined in MCL 141.422b)	**Title**
Darnell Earley, ICMA-CM, MPA	Emergency Manager

Applications are due October 31, 2014. Completed applications submitted via mail or e-mail must be received by the Michigan Department of Treasury no later than 11:59 p.m. on Friday, October 31, 2014. Incomplete applications may not be considered.

A signed and completed application (including attachments) can be submitted by e-mail to TreasRevenueSharing@michigan.gov or by mail to:

Michigan Department of Treasury
Office of Revenue and Tax Analysis
PO Box 30722
Lansing, MI 48909

What are the compliance dates?

EXISTING SOURCES:

Emission limits: As expeditiously as practicable after State plan approval, but no later than 3 years after State plan approval or by May 20, 2016, whichever is earlier.

Operator training: Must be completed by the later of: the final compliance date; 6 months after unit startup; or 6 months after an employee assumes responsibility for operating the unit or supervising operation of the unit.

NEW SOURCES:

Emission limits: Within 60 days after your SSI unit reaches the feed rate at which it will operate, or within 180 days after initial startup, whichever is earlier.

Operator training: Six months after your SSI unit starts up, or before an employee assumes responsibility for supervising or operating the unit.

What reports are required?

- New sources: Notification of construction (including a siting analysis) and notification of initial startup.
- Existing sources taking more than 1 year to comply: Final control plan and notification of increments of progress.

All Sources:

- Monitoring plan for each continuous monitoring system, bag leak detection system and ash handling system.
- Initial and annual compliance reports and deviation reports.
- Submittal to EPA's Central Data Exchange of performance test data and relative accuracy test audit data for continuous monitors (using EPA's Electronic Reporting Tool).

What records are required?

- Records of operator training.
- Records that demonstrate compliance with emission limits, including records for testing, operating parameters, and continuous monitoring.
- Records of air pollution control device inspections.
- Records of all plans, reports, and notifications.
- Records of inspections, calibrations, validation checks, monitoring plans, and performance evaluation results of monitoring control devices.
- Records of bypass stack usage.
- Records of malfunctions.

For More Information

Copies of the rule and other materials are located at:
http://www.epa.gov/ttn/atw/129/ssi/ssipg.html

For more information on this regulation, please call your state or local air pollution control agency or the EPA Regional Office covering your state. EPA Regional contact information can be found on the Internet, at the following address:
http://www.epa.gov/aboutepa/index.html#regional

For more information on state requirements, please contact your state representative found at the following link:
http://www.4cleanair.org/contactUsaLevel.asp

United States Environmental Protection Agency
http://www.epa.gov/ttn/atw/129/ssi/ssipg.html

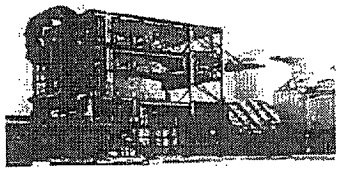
September 2011

Office of Air Quality Planning & Standards

EPA

Summary of Regulations Controlling Air Emissions from

Sewage Sludge Incinerators



Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units (40 CFR Part 60, Subparts LLLL and MMMM)

FINAL RULE
March 21, 2011 (76 FR 15372)

Which SSI units are affected?

- SSI units located at wastewater treatment facilities that are designed to treat domestic sewage sludge.

What is an SSI unit?

- An SSI unit is an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter.
- An SSI unit includes the following:
  - Sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, and bottom ash system.
  - All ash handling systems connected to the bottom ash handling system.

How do I comply?

You comply by obtaining operator training and demonstrating that your SSI meets specified air pollutant emission limits, as summarized in the table above. The emission limits are based on the construction date of the unit and the type of unit.

Obtain Operator Training and Qualification

- Obtain operator training through a state-approved program or by completing the requirements in the rule, which include a state-approved examination.
- Establish a program for reviewing with plant personnel the operator training procedures and information such as how to operate the incinerator and air pollution control systems to meet the rule's requirements.
- Complete an annual review or refresher course.

Summary of Sewage Sludge Incinerator Emission Limits and Operator Training Requirements

SSI Unit [1]	Summary of Requirements [2]
Existing SSI units: Commenced construction or reconstruction of the unit on or before October 14, 2010	
Fluidized bed Multiple hearth	• Obtain and maintain operator training and qualification. • Meet emission limits for PM, HCl, dioxins/furans, Hg, NOx, SO_2, Cd, Pb, and CO. • Limit visible emissions of combustion ash from an ash conveying system to ≤5 percent.
New SSI units: Commenced construction/reconstruction of the unit after October 14, 2010	
Fluidized bed Multiple hearth	• Obtain and maintain operator training and qualification. • Meet emission limits for PM, HCl, dioxins/furans, Hg, NOx, SO_2, Cd, Pb, and CO. • Install and operate CEMS to monitor CO. • Limit visible emissions of combustion ash from an ash conveying system to ≤5 percent.

[1] Fluidized bed incinerator: Enclosed device in which organic and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.
Multiple hearth incinerator: Circular steel furnace that contains a number of solid refractory hearths and a central rotating shaft; rabble arms that are designed to slowly rake the sludge on the hearth are attached to the rotating shaft.
[2] Existing and new FB and MH incinerators must all meet emission limits for the same nine pollutants; however, the numerical emission limits are different for each of the subcategories.

Meet Emission Limits

- Conduct initial performance test and establish operating parameters.
- Repeat performance test every year.
- Monitor and collect data to demonstrate compliance with operating limits.
- Conduct initial and annual inspections of the air pollution control device.
- Continuously monitor the minimum temperature of the combustion chamber.
- Prepare a site-specific monitoring plan for each continuous monitoring system, bag leak detection system, and ash handling system.
- Conduct initial and periodic performance evaluation of each continuous monitoring system, bag leak detection system, and ash handling system.

Do the rules provide flexibility?

- You may install and operate continuous monitoring systems (CEMS) for PM, HCl, dioxins/furans, Hg, NOx, SO_2, Cd, and Pb and CO instead of conducting annual performance tests. New units must install CO CEMS.
- You may install a continuous automated sampling system for Hg and dioxins/furans instead of annual performance testing.
- To demonstrate initial compliance, existing units may use results from a test conducted within 2 previous years, if the test was conducted under the same conditions and no process changes have been made since.
- You may conduct performance tests every third year if performance tests for a pollutant for at least 2 consecutive years show that emissions are at or below 75 percent of the emission limit.

BID REQUIREMENTS / TABULATION

Water Pollution Control
G-4652 Beecher Rd.
Flint, MI 48532

PROVIDE TO WATER POLLUTION CONTROL ALL THE LABOR AND MATERIALS AS SPECIFIED IN THE ATTACHED BID DOCUMENTS TO CONSTRUCT A BIOSOLIDS LOADING FACILTY. ADDITIONAL ITEMS AS REQUESTED.

QUANTITIES (DOLLAR AMOUNTS) ARE NOT GUARANTEED.

FOR FURTHER INFORMATION PLEASE CONTACT ROBERT J. CASE, WPC SUPERVISOR OR JOHN FLORSHINGER, AUTOMATION SUPERVISOR AT (810) 766-7210 EXTENSION 3641.

Only the specifier has the responsibility and judgment for determining whether a proposed substitution is an "or equal or exceeding" specification. Mfg., model #, and supporting documentation of specifications for alternates must be provided.

City of Flint - Water Pollution Control
Solids Handling Improvements – Biosolids Loading Facilities

This project includes the construction of a new Biosolids Loading Building (BLB) and provision of equipment in both the new building and an existing Dewatering Building to enable conveyance and loading of biosolids cake into trucks or large roll-off containers. Major pieces of equipment will be Owner-supplied, such as the conveyance equipment in the new building and the existing dewatering building, and biosolids cake pumps to be used to move the cake from the Dewatering to the BLB.

The existing biosolids dewatering and incineration must be kept functional and in operation during the construction. However, it is only necessary to have one of the two dewatering equipment trains (East or West) operational at one time.

Specifics include all required labor, material, and equipment to perform the work as noted:

1. Installation of two new Owner-supplied progressive cavity cake pumps for dewatered biosolids.

2. Modification of existing conveyor belts.

3. Installation of Owner-supplied new screw conveyors in the Dewatering Building to enable use of any of four dewatering centrifuges or belt filter presses.

4. Installation of a piping system to conduct the biosolids from the Dewatering Building to the new building. Provide all required bonds, insurance, warranties, and guarantees.

5. Construction of a new building to house truck loading equipment for the biosolids.

6. Installation of Owner-supplied new screw conveyors to distribute the cake into containers in the new building.

7. Site improvements to facilitate trucking of the biosolids off plant grounds, including a new automatic gate and minor paving work.

A Pre-Bid meeting will be held at Water Pollution Control on **Thurs., July, 24, 2014** at 10:00 a.m. EST. Attendance is not mandatory, but highly recommended.
Bids are due on **Thurs., August 7, 2014** by 3:00 p.m. EST.

ARTICLE 1 - QUALIFICATIONS OF BIDDERS

Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

To demonstrate Bidder's qualifications to perform the Work, within 3 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

ARTICLE 2 - BIDDER'S ACKNOWLEDGEMENTS

Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 -BIDDER'S REPRESENTATIONS

In submitting this Bid, Bidder represents that Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE (Subsurface and Physical Conditions)

4.01 The Supplementary Conditions identify

A. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.
B. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
C. Copies of reports and drawings referenced in Paragraphs 4.01.A-B will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.01 has been identified and established in Paragraph 4.02.

D. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown and/or indicated in such drawings/documents.

4.02 Underground Facilities

Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03Hazardous Environmental Condition

A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.
B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.01 of the General Conditions has been identified and established in Paragraph 4.01 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Adequacy of Data

Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02 and 4.03 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.03 of the General Conditions.

4.05Site Restoration

On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

REVISED

REQUIREMENT / TABULATION

Bidder herby agrees to complete the Work in accordance with the Contract Documents for the following lump sum price(s):

TASK	GENERAL DESCRIPTION	ESTIMATED TIME TO COMPLETE	COST
1	Installation of two new Owner-supplied progressive cavity cake pumps for dewatered biosolids.		
2	Modification of existing conveyor belts.		
3	Installation of Owner-supplied new screw conveyors in the Dewatering Building.		
4	Installation of a piping system to conduct the biosolids from the dewatering building to the new building.		
5	Construction of a new building to house truck loading equipment for the biosolids.		
6	Installation of Owner-supplied new screw conveyors in the new building.		
7	Site improvements to facilitate trucking of the biosolids off plant grounds, including a new automatic gate and paving work.		
100% Complete	GRAND TOTAL		$
8	DEDUCTIBLE ALTERNATE NO. 1 – Polymer Piping to Solids Loading Building Provide the following deduct from the Base Bid if the Polymer Piping to the Solids Loading Building identified on the DRAWINGS is not constructed:		

All specified cash allowances are included in the price(s) set forth above, and have been computed in accordance with Paragraph 11.02 of the General Conditions.

1. Included in the Bid Price is an Allowance for SCADA programming in the amount of $20,000.00.

2. Included in the Bid Price is an Allowance for Security Cameras in the amount of $15,000.00.

3. Included in the Bid Price is an Allowance for use tax for Owner furnished equipment in the amount of $50,000.00.

4. Included in the Bid Price is an Allowance for Safety/Walkway Modifications in the amount of $15,000.00.

Bidder certifies that:

This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

Bidder has not solicited or induced any individual or entity to refrain from bidding; and

Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:

A. "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
B. "Fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
C. "Collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
D. "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

All BIDS will be evaluated on the following criteria:

1. Failure to use this bid form may result in bid disqualification.
2. Failure to bid on all items may result in an "incomplete bid" determination.
3. List value-added considerations on a separate sheet of paper.

THIS PAGE MUST BE COMPLETED AND INCLUDED WITH SUBMITTAL:

JIM ANANICH
27TH DISTRICT
P.O. BOX 30036
LANSING, MI 48909-7536
PHONE: (517) 373-0142
FAX: (517) 373-3938

THE SENATE
STATE OF MICHIGAN

October 29, 2014

Michigan Department of Treasury
Office of Revenue and Tax Analysis
P.O. Box 30722
Lansing, MI 48909

To Whom It May Concern:

I am pleased to have this opportunity to submit a letter of support for the City of Flint's application to the Michigan Department of Treasury Financially Distressed Cities, Villages, and Townships Grant Program for the ***Water Pollution Control Incinerator Shutdown Project.***

Given the recent water contamination crisis that the City of Flint faced (http://www.washingtontimes.com/news/2014/sep/8/flint-expands-water-advisory-after-bacteria-found/), it is critical that they have adequate resources to update their water infrastructure to avoided repeated contamination cases. This grant would help the City of Flint start that process.

Additionally, the City of Flint needs to implement this project to realize a net $400,000 in annual savings from reduced purchase of natural gas, reduced maintenance and the avoidance of costly federally mandated incinerator upgrades. This savings will strengthen the Sewer Enterprise Fund and provide the capability for necessary investment in the water pollution control infrastructure.

For the above reasons and many more, I want to again express my strong support of this proposal. It is my hope that you give the ***Water Pollution Control Incinerator Shutdown*** proposal strong consideration. If you have any additional questions about this proposal and my reasons for supporting it, please don't hesitate to contact me at my office: (517) 373-0142.

Sincerely,

Jim Ananich
State Senator
27th District
517-373-0142

Recycled Paper

Elowsky, Denise (Treasury)

From: Maxine Murray <mmurray@cityofflint.com>
Sent: Friday, October 31, 2014 4:23 PM
To: TreasRevenueSharing
Subject: Financially Distressed Cities, Villages, and Townships Application - Water Pollution Control Incinerator Shutdown Project
Attachments: WPC Incinerator Shutdown 10312014.pdf

Good afternoon:

Please find attached the Water Pollution Control Incinerator Shutdown Project from the City of Flint.

Thank you.

--
Maxine Murray
Executive Assistant to
Mayor Dayne Walling
Darnell Earley, Emergency Manager
1101 S. Saginaw Street
Flint, MI 48502
810.237.2035 Telephone
810.766.7218 Fax

From:	Thelen, Mary Beth (DEQ)
Sent:	Friday, February 06, 2015 1:30 PM
To:	DEQ-EXE-800 Meeting Attendees;Fiedler, Lynn (DEQ)
Cc:	Wilcox, Candra (DEQ);Vaughn, Kari (DEQ);Feuerstein, Heather (DEQ);Patterson, Leigh (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Barr, Carrie (DEQ)
Subject:	Director's 8:00 Exec Team List for February 9, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-8:30 Executive meeting on February 9, 2015. Lynn **is scheduled to attend the 8:00 to give us a short updates on AQD issues. She is also scheduled for the 8:30 larger meeting as well.**

Executive (Director)

- Governor's Meeting on Budget
- Tribal Meeting on Feb. 4
- Meet/Greet New Legislators and New Committees
- Director's Advisory Council for February
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water

- SAW Grants

OWMRP
- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Olszewski, Rosemarie (DEQ)
Sent: Friday, February 06, 2015 2:55 PM
To: Alexander, Richard (DEQ);Allan, Jon (DEQ);Anderson, Madhu (DEQ);Beaulac, Michael (DEQ);Browne, Elizabeth (DEQ);Creal, William (DEQ);Datema, Maggie (DEQ);Epkey, Amy (DEQ);Erickson, Susan (DEQ);Eyer, Tamara (DEQ);Feighner, Bryce (DEQ);Fiedler, David (DEQ);Fiedler, Lynn (DEQ);Fish, Kim (DEQ);Fitch, Hal (DEQ);Goodheart, James (DEQ);Hellwig, Vince (DEQ);Howes, Sarah (DEQ);Shekter Smith, Liane (DEQ);Sygo, Jim (DEQ);Thelen, Mary Beth (DEQ);Tommasulo, Karen (DEQ);Wagner, Robert (DEQ);Wurfel, Brad (DEQ);Wyant, Dan (DEQ);Barr, Carrie (DEQ);Feuerstein, Heather (DEQ);Flores, Benita (DEQ);Lawrence, Deana (DEQ);Sackrider, Sarah (DEQ);Shaler, Karen (DEQ);Slater, Donna (DNR);Smith, Laura (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ);Winters, Bobbie Jo (DEQ);Wygant, Adam (DEQ);Wilcox, Candra (DEQ);Ostrowski, James (DEQ);Riley, John (DEQ);Edlin, Karen (DEQ);Patterson, Leigh (DEQ)
Cc: Olszewski, Rosemarie (DEQ)
Subject: E-Clips for week of February 2, 2015
Attachments: E-Clips 020215.pdf

DEQ e-clips

Week of February 2, 2015

Detroit Free Press: As oil wells enter neighborhoods, townships push back
http://www.freep.com/story/news/local/michigan/2015/02/04/oil-gas-township-zoning-shelby-scio-drilling-fracking/22898273/

GRBJ.com: Local real estate agents are familiar with radon testing
http://www.grbj.com/articles/81625-local-real-estate-agents-are-familiar-with-radon-testing

Great Lakes Echo: New website finds Great Lakes data in minutes
http://greatlakesecho.org/2015/02/03/new-website-finds-great-lakes-data-in-minutes/#

A New Focus on PBB
http://greatlakesecho.org/2015/02/06/a-new-focus-on-pbb/#

LSJ: Danby Twp. board sets gravel mine public hearing
http://www.lansingstatejournal.com/story/news/local/2015/02/02/danby-gravel-mine/22747189/

MLive: As engineers mull lock redesign, Michigan AG calls for 'action' on Asian carp
http://www.mlive.com/news/index.ssf/2015/02/asian_carp_schuette_brandon_ro.html#incart_river

4 ways President Barack Obama's budget could affect Michigan
http://www.mlive.com/lansing-news/index.ssf/2015/02/4_ways_president_barack_obamas.html#incart_river

Governor awards Flint $2 million for troubled water system; Mayor says more is needed
http://www.mlive.com/news/flint/index.ssf/2015/02/governor_awards_flint_2_millio.html

$50 million cut for Great Lakes cleanup in Obama 2016 budget riles healthy waters group
http://www.mlive.com/news/index.ssf/2015/02/50_million_cut_for_great_lakes.html#incart_river

Nine coal plants to be retired across Michigan as Consumers Energy looks to provide reliable, affordable, clean engery
http://www.mlive.com/environment/index.ssf/2015/02/nine_coal_plants_to_be_retired.html#incart_river

Guest column: Great Lakes need new protections from pollutants that lead to algal blooms
http://www.mlive.com/opinion/index.ssf/2015/02/guest_column_the_great_lakes_d.html

MiNBCNews: Snyder sends funds to help Flint's water system
http://www.minbcnews.com/news/story.aspx?id=1158728#.VNIbLaMo7bg

Michigan Radio: ET Rover revises plan for large natural gas pipeline, cuts 6 counties from route
http://michiganradio.org/post/et-rover-revises-plan-large-natural-gas-pipeline-cuts-6-counties-route

Petoskey News: Lawmakers to tour Northern Michigan by snowmobile
http://www.petoskeynews.com/featured-pnr/lawmakers-to-tour-northern-michigan-by-snowmobile/article_6f2fbcb0-dd49-5ffc-9455-3807e6af8808.html

Record-Eagle: Activists, localities work to keep fracking rare in Michigan
http://www.record-eagle.com/news/local_news/activists-localities-work-to-keep-fracking-rare-in-michigan/article_90903848-cc10-514b-aa5b-55578f32240f.html

The Daily News: Belding residents express frustration with DEQ over Electrolux property
http://thedailynews.cc/2015/01/30/belding-residents-express-frustration-with-deq-over-electrolux-property/

The Mining Journal: Stand U.P. group raising funds for County Road 595 lawsuit
http://www.miningjournal.net/page/content.detail/id/613283/Stand-U-P--group-raising-funds-for-County-Road-595-lawsuit.html?nav=5006

Council to consider supporting CR 595
http://www.miningjournal.net/page/content.detail/id/613351/Council-to-consider-supporting-CR-595.html?nav=5001

The Morning Sun: Will the state pay attention to the problems of the Pine River?
http://www.themorningsun.com/general-news/20150205/will-the-state-pay-attention-to-the-problems-of-the-pine-river&template=printart

The Ogemaw County Herald: EPA could tighten woodstove manufacture specifications
http://www.ogemawherald.com/stories/EPA-could-tighten-woodstove-manufacture-specifications,100963

UpperMichiganSource: Michigan lawmakers sponsor resolutions supporting County Road 595
http://www.uppermichiganssource.com/news/story.aspx?id=1159366#.VNOzPaMo7bh

WHMI.com: Concerns w/ Work at Waldenwoods Resort Spurs DEQ Intervention
http://whmi.com/news/article/21883

WZZM: State plans to dive shipwreck found by Muskegon duo
http://www.wzzm13.com/story/news/2015/02/05/state-michigan-wayne-lusardi-kevin-dykstra-frederick-monroe-griffon/22951411/

Rosemarie Olszewski
General Office Assistant - Executive Division
Department of Environmental Quality
Ph: 517-284-6700

Fax: 517-241-7401
Email: olszewskir@michigan.gov

DEQ e-clips

Week of February 2, 2015

Detroit Free Press: As oil wells enter neighborhoods, townships push back
http://www.freep.com/story/news/local/michigan/2015/02/04/oil-gas-township-zoning-shelby-scio-drilling-fracking/22898273/

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Guest column: Great Lakes need new protections from pollutants that lead to algal blooms
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MiNBCNews: Snyder sends funds to help Flint's water system
http://www.minbcnews.com/news/story.aspx?id=1158728#.VNIbLaMo7bg

Michigan Radio: ET Rover revises plan for large natural gas pipeline, cuts 6 counties from route
http://michiganradio.org/post/et-rover-revises-plan-large-natural-gas-pipeline-cuts-6-counties-route

Petoskey News: Lawmakers to tour Northern Michigan by snowmobile
http://www.petoskeynews.com/featured-pnr/lawmakers-to-tour-northern-michigan-by-snowmobile/article_6f2fbcb0-dd49-5ffc-9455-3807e6af8808.html

Record-Eagle: Activists, localities work to keep fracking rare in Michigan
http://www.record-eagle.com/news/local_news/activists-localities-work-to-keep-fracking-rare-in-michigan/article_90903848-cc10-514b-aa5b-55578f32240f.html

The Daily News: Belding residents express frustration with DEQ over Electrolux property
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The Mining Journal: Stand U.P. group raising funds for County Road 595 lawsuit
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Council to consider supporting CR 595
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The Morning Sun: Will the state pay attention to the problems of the Pine River?
http://www.themorningsun.com/general-news/20150205/will-the-state-pay-attention-to-the-problems-of-the-pine-river&template=printart

The Ogemaw County Herald: EPA could tighten woodstove manufacture specifications
http://www.ogemawherald.com/stories/EPA-could-tighten-woodstove-manufacture-specifications,100963

UpperMichiganSource: Michigan lawmakers sponsor resolutions supporting County Road 595
http://www.uppermichiganssource.com/news/story.aspx?id=1159366#.VNOzPaMo7bh

WHMI.com: Concerns w/ Work at Waldenwoods Resort Spurs DEQ Intervention
http://whmi.com/news/article/21883

WZZM: State plans to dive shipwreck found by Muskegon duo
http://www.wzzm13.com/story/news/2015/02/05/state-michigan-wayne-lusardi-kevin-dykstra-frederick-monroe-griffon/22951411/

From: Thelen, Mary Beth (DEQ)
Sent: Friday, February 13, 2015 6:30 PM
To: DEQ-EXE-800 Meeting Attendees;Alexander, Richard (DEQ)
Cc: Wilcox, Candra (DEQ);Vaughn, Kari (DEQ);Patterson, Leigh (DEQ);Thelen, Mary Beth (DEQ);Feuerstein, Heather (DEQ);Flores, Benita (DEQ)
Subject: Director's 8:00 Exec Team List for February 17, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-8:45 Executive meeting on February 17, 2015. Rich Alexander **is scheduled to attend the 8:00 to give us a short updates on issues.**

Executive (Director)

- Budget
- Logo update for Web site, building, etc. (Madhu)
- Meet/Greet New Legislators and New Committees
- Director's Advisory Council for February
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water

- SAW Grants

OWMRP
- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, February 18, 2015 8:48 AM
To: DEQ-EXE-800 Meeting Attendees
Cc: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators;DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Director's 8:00 Exec Team List for February 23,, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-8:30 Executive meeting on Monday, February 23, 2015. **Bill Creal (WRD) is scheduled to attend the 8:00 to give us a short updates on WRD issues.** I am also sending this list to the SMT in case needed for the 8:30 meeting.

Executive (Director)

- Director's Advisory Council for February
- Budget
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
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- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, February 27, 2015 5:04 PM
To: DEQ-EXE-800 Meeting Attendees;Wagner, Robert (DEQ);Erickson, Susan (DEQ);Sackrider, Sarah (DEQ)
Subject: Director's 8:00 Exec Team List for March 2,, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-8:30 Executive meeting on Monday, March 2, 2015. Bob Wagner **is scheduled to attend the 8:00 to give us a short updates on RRD issues.**

- Joint Legislative Hearings
- Director's Advisory Council for April
- Budget
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates

- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Andy Dillon <adillon@conwaymackenzie.com>
Sent: Tuesday, March 03, 2015 4:38 PM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Fwd: Flint Leak Detection
Attachments: hppscan185.pdf

Dan,

I hope this finds you well.

Email below is an FYI. You may recall Tucker Young assisted me in evaluating the KWA oppty. They asked me to advise you they are familiar (obviously) w/ Flint and would like to help w/ leak detection/correction.

Actually, I have another matter I am working on I think you will find very interesting. I am off this week but will follow up when I return to Michigan as its a cutting edge, technology play that I believe the DEQ will find of interest. I introduced it to Tony Earley and he expressed great interest. Will advise in greater detail when I return from vacation (ugh, yes working while on vacation).

Best,

Andy Dillon
Conway MacKenzie Inc.
401 S. Old Woodward Avenue, Suite 340, Birmingham, MI 48009
248.952.8868 (office) | 517.420.6825 (cell) | 248.433.3143 (fax)
adillon@conwaymackenzie.com

---------- Forwarded message ----------
From: **George Karmo** <GKarmo@tyjt.com>
Date: Fri, Feb 27, 2015 at 1:28 PM
Subject: Flint Leak Detedtion
To: "adillon@conwaymackenzie.com" <adillon@conwaymackenzie.com>
Cc: David Guastella <DGuastel@tyjt.com>

Andy,

It was good talking to you this morning.

I'm referencing the Crain article attached related to City of Flint Water issues.

As you are aware when TYJT completed its report for the State of Michigan Treasury (assessment of Flint continuing with DWSD or partnering with Karegnondi Water Authority), we had recommended that Flint implement a program for leak detection of its water system. It was believed that the system experienced up to 50% leakage! We had indicated that the effort was necessary so that Flint could dramatically reduce the amount of water it needed to purchase from the Karegnondi Water Authority prior to designing and constructing the new pipe line.

As you are aware, TYJT is knowledgeable of the Flint area water system and well experienced in conducting leak detections and water audits. We therefore ask, based on the fact that the State of Michigan maybe granting Flint some funds to do the leak detection (see attached article) that TYJT use its existing DTMB as-needed contract with the State to accomplish this task.

Please let me know if you need additional information. We will be available to immediately meet with representatives of the State and City of Flint to discuss this leak detection program.

Regards,

George Karmo, P.E., BCEE

President

Tucker, Young, Jackson, Tull Inc.

615 Griswold Street

Detroit, Michigan 48226

313-234-0337 office direct

313-402-0356 cell

gkarmo@tyjt.com

MICHIGAN BRIEFS

Survey: More small firms leave it to workers to buy health coverage

Only 28 percent of small-business owners who offer employee health coverage indicated they intend to continue those benefits into 2016, according to a **Grand Valley State University** survey that asked how they were reacting to the Affordable Care Act. That move stems in part from the option available for individuals to buy coverage through public health exchanges created under Obamacare, *MiBiz* reported.

The results confirm much of what insurance carriers have seen and heard from small employers, said Scott Norman, vice president of sales and client services at **Priority Health**, which sponsored the GVSU survey. The results also point to the expected rise of the individual market.

How can you save a mall? Some developers turn to 'de-malling'

Despite numerous headlines touting the death of the American shopping mall, West Michigan developers have avoided an untimely demise. One key has been a push to effectively "de-mall" the sprawling shopping complexes where stores are connected via interior corridors. Instead, they're rearranging the traditional shopping malls so that the stores are only accessible from outside entrances.

The de-malling strategy effectively breathed new life into Grand Rapids' **Centerpointe Mall**, now about 90 percent occupied, according to **Colliers International**. The de-malling of Centerpointe has inspired developers to do a similar project at another mall that has fallen on hard times in recent years: Holland's **Westshore Mall** on U.S. 31.

State turns on money spigot to end Flint water torture

The problems for the Flint water system just keep going drip, drip, drip. ... Last week, the **Genesee Intermediate School District** said it had stopped using city water and was giving bottled water to about 1,300 preschoolers.

Also last week, Gov. Rick Snyder and the state stepped in, pledging $2 million in grants. The money will pay for a contractor to perform a leak detection survey of city water lines and shut down the Water Pollution Control Facility incinerator, replacing it with facilities allowing for waste disposal in landfills, The Associated Press reported.

Flint's emergency manager, Jerry Ambrose, said the financial relief also will free money to accelerate the replacement of major pipelines, which he said will increase water circulation and improve quality.

In January, Flint's system was in violation of the Safe Drinking Water Act because of high levels of a disinfectant byproduct. Flint, formerly a major customer of the **Detroit Water and Sewerage Department**, severed those ties last year to build a pipe into Lake Huron, ostensibly to save money.

Until the pipe is ready in 18 months, Flint gets water from the Flint River, which residents say has the smell, taste and appearance of something that looks less like water and more like, well.

Last year, a **General Motors Co.** engine plant stopped using water from the Flint River after the automaker said it caused rusting on its engine parts.

The decision is expected to cost the city about $400,000 per year in lost revenue.

"The water today is within all acceptable guidelines — and that's an improvement over where it was a couple months ago," Ambrose said. "That says the water is safe. It doesn't say the quality is acceptable, and that's not acceptable to us."

Miscellaneous

■ **Amway Corp.** President Doug DeVos told *The Grand Rapids Press* that the direct-sales giant will not cut back on its expansion plans or workforce despite an 8 percent decline in sales last year. Amway attributed the decline to a strong U.S. dollar and lower sales in China, the Ada-based company's largest market.

■ The latest quarterly survey of office furniture executives by **Michael A. Dunlap & Associates** found the industry "very steady" heading in the new year. "We are confident that the industry is still on course to achieve its best year in more than a decade," said Michael Dunlap, head of the Holland consultancy.

■ The **U.S. Army Corps of Engineers** will spend an additional $12 million this year on improvements to the Great Lakes navigational system, The Associated Press reported. The additional money allocated to the Detroit district will pay for eight projects involving dredging of shipping channels or other repairs, replacement or construction.

■ A subsidiary of Grand Rapids-based **Universal Forest Products Inc.** acquired assets of **Rapid Wood Mfg. LLC** of Caldwell, Idaho, *MiBiz* reported. In January, Universal acquired a majority stake in Australia's **Integra Packaging Proprietary Ltd.**

■ **Carson Health** in Montcalm County was acquired by **Sparrow Health** of Lansing, Sparrow said in a statement. Carson, with 61 beds, had been an affiliate of the Sparrow system since 1937.

■ The *Daily News* in New York City reports that **Dow Chemical Co.** Chairman and CEO Andrew Liveris bought a condominium in Manhattan's Chelsea neighborhood for $10.75 million. The 2,500-square-foot abode on the 17th floor has three bedrooms, "sweeping views of Midtown ... and 12-foot ceilings." It is said that his neighbors include actress Cameron Diaz.

Find business news from around the state at crainsdetroit.com/crainsmichiganbusiness.

Sign up for the Crain's Michigan Morning e-newsletter at crainsdetroit.com/emailsignup.

Correction

■ The cost of **Oakland University**'s Executive MBA, health care leadership emphasis, is $42,500. An incorrect price was published in a list of selected area leadership programs in the Feb. 2 edition.

Advertise on this page | 313-446-6000 | crainsdetroit.com/mediakit

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, March 04, 2015 5:44 PM
To: Wyant, Dan (DEQ)
Cc: Wurfel, Brad (DEQ)
Subject: FW: Meeting on March 9

Dan,

Do you want to send Stephen Busch or Mike P to this? Or have Liane pick? Do you want anyone from the Executive Division to attend on Monday as well? They said only need a technical person.

Thanks.

From: Clayton, Stacie (GOV)
Sent: Wednesday, March 04, 2015 5:25 PM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Meeting on March 9

Director Wyant,

Harvey Hollins is requesting a DEQ technical person attend a meeting on Monday, March 9, at 1pm. The meeting will take place in the offices of the Sterling Corporation in the Hollister Building, 106 W. Allegan, Suite 2, Lansing, MI, and its purpose is regarding a possible solution for the Flint Water matter. Also in attendance will be Flint EM Gerald Ambrose and a Flint Water representative.

Additionally, I will have more you background information by Friday morning.

Thank you,
Stacie

Stacie Clayton, Assistant Director
Harvey Hollins III, Director
Governor's Office of Urban and Metropolitan Initiatives
3044 West Grand Boulevard, Ste. 14-650
Detroit, MI 48202
313.456.4994 (office)
claytons3@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, March 06, 2015 11:04 AM
To: DEQ-EXE-800 Meeting Attendees
Cc: DEQ-EXE-MGMT-TEAM;DEQ-EXE-MGMT-TEAM-Secretaries;DEQ-District-Coordinators
Subject: Director's 8:00 Exec Team List for March 9,, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's Items for the 8:00-8:30 Executive meeting on Monday, March 9, 2015. Liane **is scheduled to attend the 8:00 to give us a short updates on ODWMA issues.** The Director may also discuss some of these items during his report at the 8:30 SMT as well.

Executive
- Legislative Hearings
- MMA Speech for Tuesday
- Chamber Reception for Wednesday
- Director's Advisory Council for April
- Budget
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, March 13, 2015 2:00 PM
To: DEQ-EXE-800 Meeting Attendees;Feighner, Bryce (DEQ)
Cc: Willard, Veronica (DEQ);Shaler, Karen (DEQ);Feuerstein, Heather (DEQ);Patterson, Leigh (DEQ);Thelen, Mary Beth (DEQ);Wilcox, Candra (DEQ);Vaughn, Kari (DEQ)
Subject: Director's 8:00 Exec Team List for March 16, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-9:00/9:30 Executive meeting on Monday, March 16, 2015. Bryce **is scheduled to attend the 8:00 to give us a short updates on OWMRP issues.** The Director and Maggie will be at the ECOS meeting and Jim Sygo will chair this meeting.

Executive
- Legislative Hearings
- Governor's Summit on Recycling
- Director's Advisory Council for April
- Budget
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, March 13, 2015 6:11 PM
To: Hollins, Harvey (GOV)
Cc: Wyant, Dan (DEQ)
Subject: Info download per our conversation
Attachments: Launch_and_Retrieval_Methods.pdf; OTsp07_TB.pdf; PotableWaterSeweragePipeLines.pdf; PPP_General_Brochure.pdf; USG Advanced Pipe Cleaning (Ice Pigging).pdf; 0707_036.pdf; 150207_155445_COLLAGE-1.jpg

Importance: High

Harvey,
We've got two issues I wanted to update you on. After trying to do this all in a single email, I realized it gets messy. So this is the first of two.

The water quality question remains under consideration. I've had a couple meetings this week with our drinking water team. I will circle back and push them for a specific recommendation on a good retail filter. Thus far, they've presented a range of options and been uncomfortable going past that because a) we don't specialize in home filtration. We're in charge of commercial / municipal size systems. And b) most filtration systems remove contaminants and toxics and organics. There's no way to know for sure if a faucet model will effectively work on odor or color issues until someone installs it and tries it out. For that, we'd need a home that has reported discolored / smelly water. And for that, I'd imagine we'd need to connect with the city and see if they've got logs of residents who have made these complaints.

The other potential help that could come from the state -- and after conversations with our folks I maintain it might be the best help we can give them -- has to do with maintenance. Of the $2 million announced in January from Treasury, $900,000 was earmarked for developing a maintenance triage plan. As that comes together, the next step will be actual maintenance. This means replacing valves and rotten sections of pipe, but it also means "pigging" lines with an inline device that runs through water transmission lines and forces out any built-up… material. In coordination with bleeding stagnant water via hydrants, this would probably be the fastest, most effective way to address the discolored / odorific water.

Our department specialists working with Flint imparted in an internal meeting this morning that the city has been a little reticent to pig their lines because the system is in such a condition that they worry a valve opened won't close (and vice versa), and a line that is barely still functional might get blown by the pigging. Our position is that would be preferable – maintenance, after all, is about addressing those very situations. But if funding can be identified, through SOM or some foundation benefactor, and we can convince the city to tackle the work, this would be a great way to spend it. The PDF files enclosed offer some more information about what this is, how it works, etc.

I'm still working to get a report of all the local municipal violations over the past two years. The two staff in the drinking water division who run those database searches are out of state this week, in Florida and Alaska respectively. Division assures me they'll get that report run as a priority upon return of those folks next week. In the meantime, here are some images (the Jpeg titled COLLAGE). It shows various conditions, mostly at mobile home parks around the state, where the water system

has failed. May or may not be of use, but if nothing else it exemplifies that this stuff happens, much as we try to make sure it does not.

This is email one of two. The other issue I will present in the next email. If it is at all possible, I'd suggest we need to assemble Treasury, MDCH, DEQ and Ambrose + RS team sometime Monday to get everyone briefed on what each agency is doing in Flint right now and what we may need to do next. Don't know if that meeting gets called by you or Dennis, but I think you and I agree that we need a united, coordinated team approach to develop quickly.

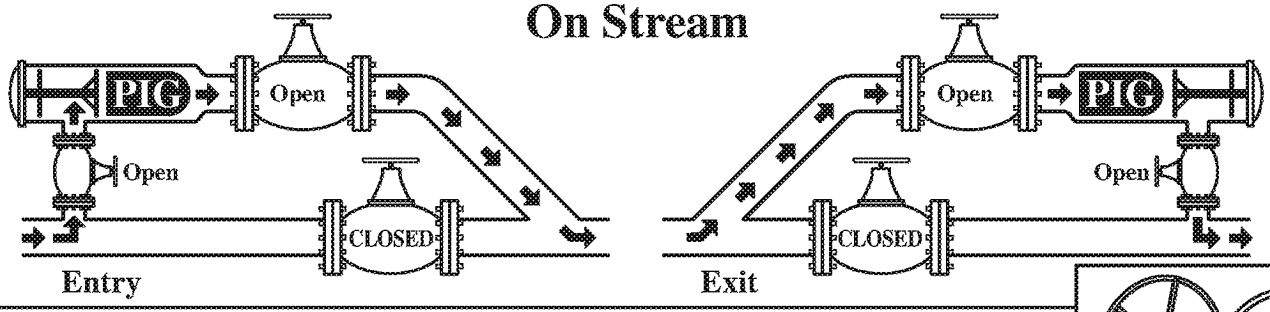
Thanks,
b

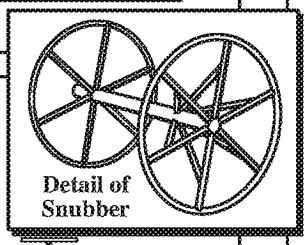
Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
517-230-8006 cell

Pipeline Pigging Products Inc.

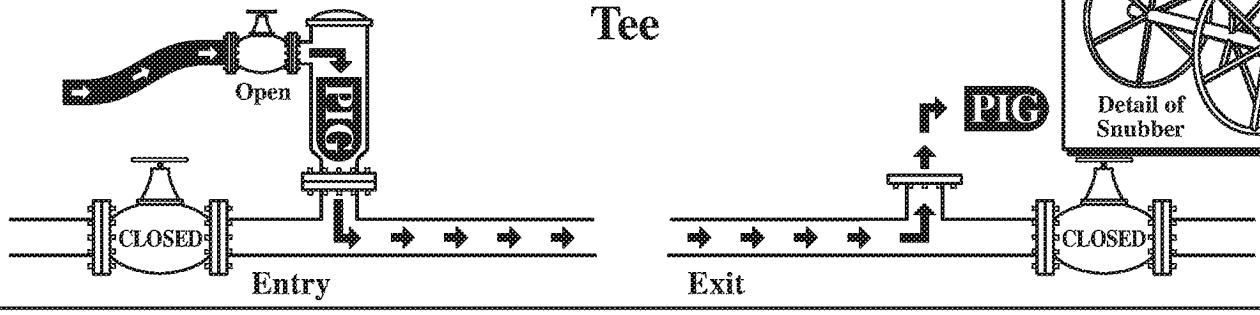
LAUNCH & RETRIEVAL METHODS

On Stream

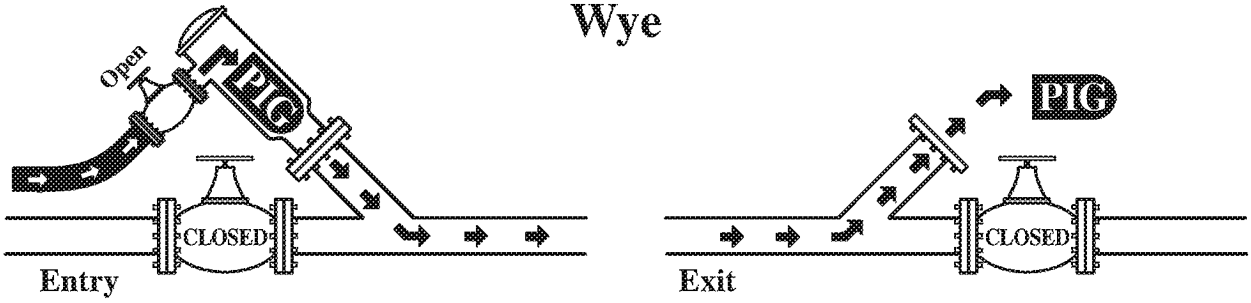




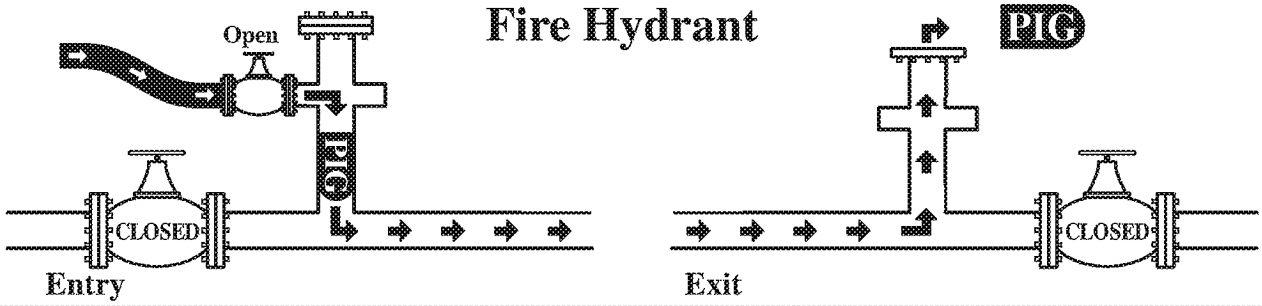
Tee



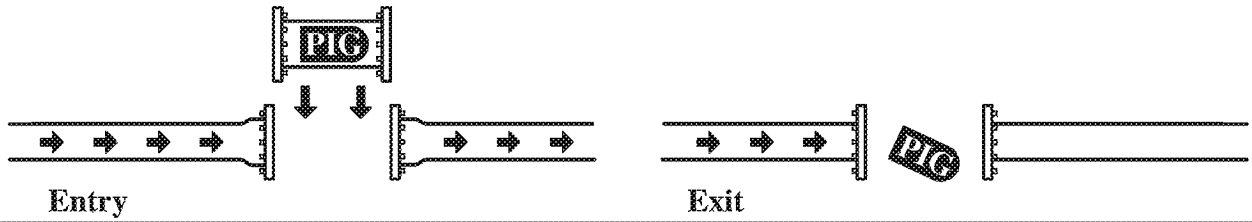
Wye



Fire Hydrant



Oversized Spool Piece

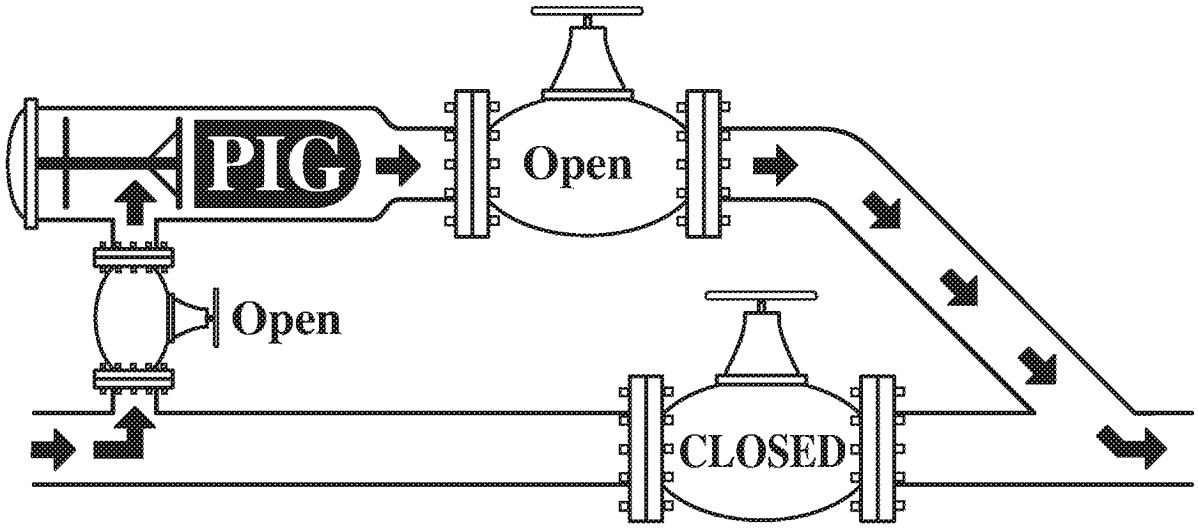


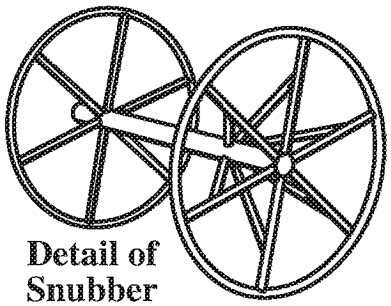
Pipeline Pigging Products Inc. • P.O. Box 692005 • Houston, Texas 77269 • 281/351-6688

Pipeline Pigging Products Inc.

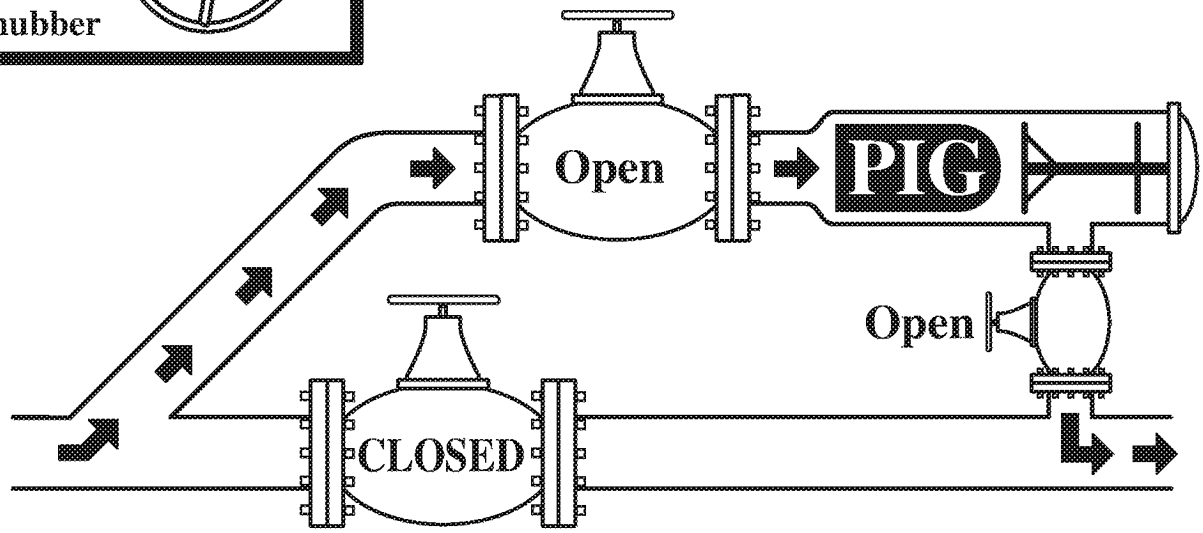
LAUNCH & RETRIEVAL METHODS

On Stream Entry





On Stream Exit



Pipeline Pigging Products Inc. • P.O. Box 692005 • Houston, Texas 77269 • 281/351-6688

Tech Brief

PUBLISHED BY THE NATIONAL ENVIRONMENTAL SERVICES CENTER

Line Pigging

By **Zane Satterfield**, **P. E.**, NESC Engineering Scientist

Summary

Line pigging is an internal pipe-cleaning process used to remove biofilms or other foreign matter from the inside of water pipes. If performed correctly, line pigging will renew the flow rates to restricted piping systems and reduce pumping pressures. This Tech Brief discusses some of the techniques and processes used in cleaning waterlines in distributions systems.

Line Pigging

Line pigging (or line swabbing, as it sometimes known), is the process of cleaning distribution lines by inserting a small device known as a pig into the lines and pushing it through them. The term "pigging" originated in the gas and oil industry, where metal discs connected by a rod were moved through the oil pipelines to remove buildup of paraffin wax on the internal wall of the pipe. The action of metal on metal made a squealing noise like a pig and the name stuck. More and more, pigs are being used to clean pipelines in all types of industry including waterlines in municipal distribution systems.

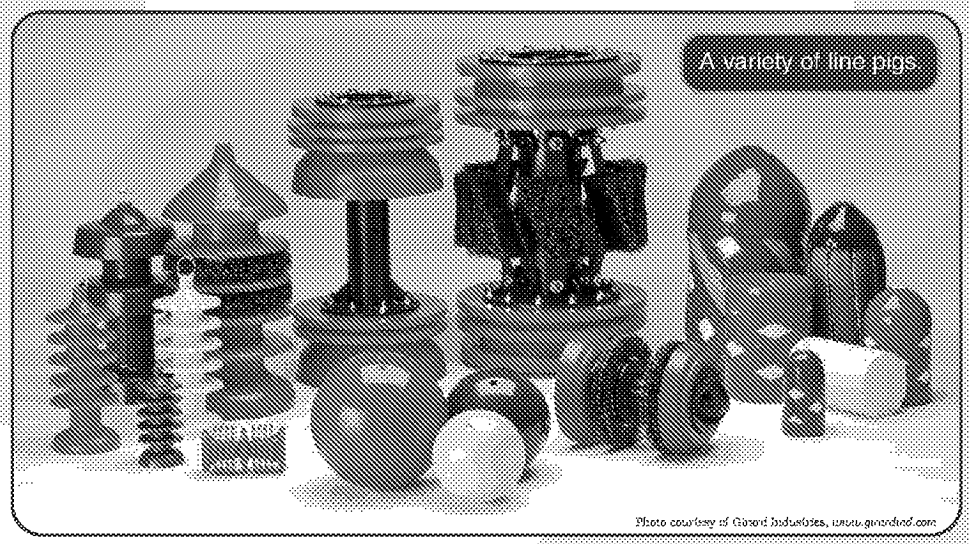
What is a pig?

A pig is the object, usually bullet shaped, that is pushed by the water in the pipe in the direction of normal flow. The pig can be made of different materials (foam, steel, plastic, polyurethane), but generally is food-grade silicon, which is tough yet flexible and safe to be in contact with drinking water.

Pigs range in size from 2- to 48-inches in diameter and can be made to order in varying lengths, styles, and configurations for specific applications. Not only are pigs used for cleaning but also for inspecting the inside of pipelines and determining interior dimensions.

Is pigging waterlines really necessary?

States and municipalities typically do not require regular pigging or swabbing of distribution lines in water systems. Some may only require pigging after initial construction of a new line to remove any debris left in the line because flushing alone will not always clean the dirt and debris out of the line.



A variety of line pigs

Photo courtesy of Girard Industries, www.girardind.com

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A photo of a 4 x 4 that was pushed out of an 8" water line. It took several pigs to finally get it out, and it came out in pieces, but they finally pigged it out.

One reason to pig a waterline is that all distribution lines tend to have a biofilm coating the inside of the pipe. The bacteria are dormant until certain conditions activate the bacteria, causing problems. Regular flushing will not eliminate this biofilm. Regular pigging with flushing will reduce or eliminate biofilms.

A second reason to pig a line is inadequate water flow. More flow (volume) of water may be needed to support development or a growing population in the water system or to provide adequate water for fire fighting. In areas of water systems where increased development has caused water demand to surpass the flow output of an existing line, the system will usually need to replace the existing waterline with a line that can support the demand needed. If the existing flow is restricted due to excessive deposits, however, pigging may be the solution to the problem.

Third, most states require a minimum of a 6-inch diameter waterline when connecting a fire hydrant to provide adequate flow. After years of service, the inside of the pipe can become restricted with deposits making the fire hydrant less effective if not useless for its intended job. If fire flow is needed, the solution in the past has been to replace the whole waterline, which is very costly and time consuming. Pigging may restore adequate flow for fighting fires at a fraction of the time and cost.

Finally, pigging waterlines may lessen complaints from water customers regarding the very same deposits that have or can restricted fire flow. These deposits are unwanted foreign matter such as iron oxide (red water), alum, calcium carbonates, barium sulfide and sediment. Pigging, in most cases, provides a solution. Cleaning these deposits can also reduce pumping pressures in areas of water systems that have booster pump stations. Increased pumping pressures can result in line leaks and pipe failures.

Procedure

The procedure starts by determining if the waterline can be pigged. Not every water line is a candidate for line pigging. Is the water line so corroded that pigging can cause failure?

Does the waterline have reducers (i.e., the line getting smaller) that can cause the pig to get stuck? Does the line have increased pipe diameter sizes where the water pressure would be insufficient to move the pig?

One of the main things to look at is the condition of the interior of the pipe. If the pH of the water is low, the interior of the line could be so corroded that pigging could result in failure. If in doubt about the condition of the line, refer to past line repairs or talk to operators who have worked on any repairs of the particular line.

Much of this information can be obtained from as-built drawings or operators who have fixed leaks or installed the original water line. The line will have to be dug up to launch the pig. At that time, a visual inspection should be done to determine if pigging is possible. Another option is to use a low density foam pig in any unknown line and examine the foam pig for wear patterns, tears, or gouges. This may even help determine if the line can be successfully cleaned with a pig.

Before the pigging begins, it's useful to have information about the line:

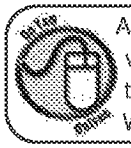
1. Locate and mark all valves and meters.
2. Approximate all elbows and fittings in the line (again, refer to the as-built drawing if available).
3. Know the pressure and flows in the lines. This will also help determine if any flow increase and possibly pressure decrease was achieved by the pigging.

The more you know before you start, the fewer surprises you'll encounter once you start pigging.

Once the line has been inspected and appears suitable, the actual pigging begins. A pig is inserted into the line to be cleaned by means of a launcher. This is simply an oversized barrel with a reducer mating to the existing line. This allows for easy insertion of the pig, because the pig's outer diameter is larger than the pipe's internal diameter to maintain a good seal. Once in the launcher, clean water is introduced to send the pig on its way. This is usually the same water that is in the line from a nearby flushing hydrant or fire hydrant, or a tanker truck. The pig's path is determined by direction of flow and by isolating the line to be cleaned by closing valves to laterals, if present.

If the waterline is in service, you must notify your customers about the water interruption and possible dirty water after bringing the line back in service. If the water line has a lot of unwanted deposits, it may be wise to pull all water meters just before the pigging process starts and flush at the connection at the end of the process before you replace the meters. Foreign matter could stop-up the meter or cause the meter to malfunction. The debris could also get into the customers' plumbing and cause problems such as plugging the aerators on the faucets, dishwashers, or washing machines.

If the waterline to be pigged has severe scaling (tuberculation) due to iron oxide (red water), alum, calcium carbonates, barium sulfide, or sediment, a progressive or stepped approach must be taken to avoid getting a pig stuck or losing a pig. This approach is simply using a smaller diameter pig at first and working your way up incrementally to the inside diameter of the pipe. The stepped technique will minimize the risk of the pig getting stuck or large amounts of debris plugging the line by cleaning a little bit at a time.



Articles about locating distribution lines and valve exercising programs are available on the National Environmental Services Center Web site at *www.nesc.wvu.edu/ndwc*.

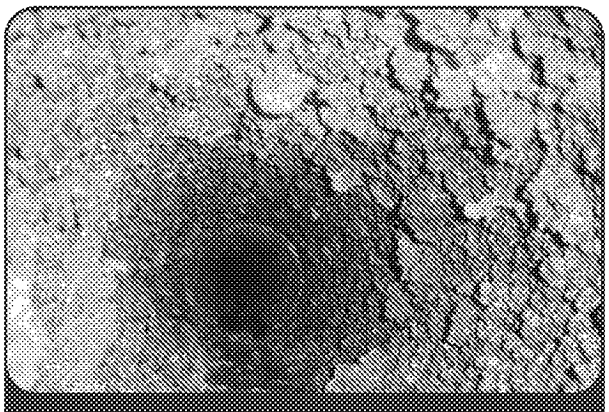
Smart Pigs

There are many different types and sizes of pigs. For waterline use, some nonstandard pigs include:

- Gauging pigs are mainly used after constructing the pipeline or before pigging an old line to determine if there are any obstructions in the pipeline.
- Profile pigs are gauging pigs with multiple gauging plates used to help map the inside condition of the pipe walls.
- Magnetic cleaning pigs are used to pick up ferrous debris left in the pipeline.
- Transmitter pigs or detector pigs are used to map out the location of pipeline or help locate a stuck pig.
- Spheres are round for ease in negotiating short radius 90-degree elbows, irregular turns, bends, and sweeps.

Dealing with a Stuck or Lost Pig

If a pipeline has not been pigged on a routine basis or has never been pigged, a pig can get stuck. If a pig becomes stuck, the first priority



A pipeline prior to line pigging.

is to find and retrieve it, but you must identify the cause. Usually one of two conditions exists when a pig is stuck: fluid bypassing around the pig (not pushing the pig) or a blockage of the flow.

In water distribution systems that have loops and multiple tee connections a pig can find its way out of the work area and get lost. It is important to locate all valves and close off the lines that are not being pigged and know the direction of water flow.

If you lose a pig, a smart pig such as a detector pig or transmitter pig can be launched to help find the lost pig. A transmitter can also be installed in the cleaning pig so that a second pig does not have to be launched to help locate it if it should get lost or stuck. Sometimes a pig gets stuck because of a broken or shut gate valve.

Procedures for dealing with a stuck pig or fluid going around the pig:

1. Increase the line pressure and flow rate, but do not exceed the safe limits of the pipeline allowing for age and/or condition of the line. The flow rate and pressure can be increased with a pumper and tanker fire truck.
2. Release pressure from the line and drain the line back toward the launcher. Releasing pressure allows the pig to relax to its normal shape and may even cause the pig to back up in the line. After pressure has dissipated completely for several minutes, re-pressurize the line in an attempted to drive the pig through the restriction. This may be repeated two or three times.
3. For a bypass situation, run a soft swab in behind the stuck pig to try and create a positive seal, stopping the bypass. Repeat step one above.
4. Back the pig up by applying pressure from the opposite end of the waterline using a pump or possibly a pumper fire truck.
5. If a foam pig is used and gets stuck a super-chlorinate mixture (3,000 to 5,000 ppm) in a slug form can be used to dissolve the pig. The line must be flushed and tested to be sure the chlorine residual is allowable limits after the super chlorination.

Water systems are advised not to undertake line pigging on their own. Shop around and find a reputable company with experience in line pigging with water lines. Start with an area of the water system that the line location, size, type, and condition are all known and the lines can be dug up easily if needed.

References:

Chem Tech Services. 2007. Various Information. Accessed at *www.chemtechservices.com/pigging.htm.*

Girard Industries. 2007. Technical Information on Pipeline Pigging. Accessed at *www.girardind.com/articles/art-of-pigging.htm.*

Hygienic Pigging Systems. 2007. Various Information. Accessed at *http://hpspigging.com/services.html.*

Kershaw, Richard. Date unknown. "Innovative Pigging Solutions For Pipelines." Tech Notes: A Pipeline & Gas Journal Fact Sheet. Chesterfield, UK: Pigtek Ltd.

Pigs Unlimited. 2007. Various Information. Accessed at *www.pigsunlimited.com/asp/about.asp.*

Rader, Larry. 2003. "On The Trail of the Elusive Water Leak." On Tap (Summer). Morgantown, WV: National Drinking Water Clearinghouse.

U. S. Environmental Protection Agency. 1999. *Microbial and Disinfection Byproducts Rules Simultaneous Compliance Guidance Manual.* Washington, D.C.

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NESC Engineering Scientist **Zane Satterfield** is a licensed professional engineer and previously worked for the West Virginia Bureau of Public Health, Environmental Engineering Division.

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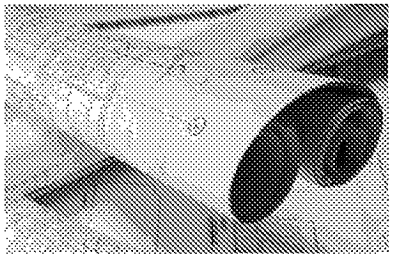
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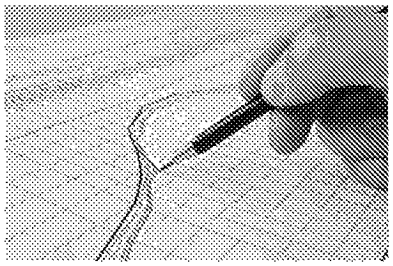
TECHNICAL SPECIFICATIONS FOR THE INTERNAL CLEANING OF POTABLE WATER AND SEWAGE PIPE LINES

EXECUTION:

•Pipeline shall be cleaned to remove most dirt, sludge, tuberculation and other foreign matter buildup from the interior wall of the pipeline. Equipment selected shall be capable of performing such cleaning. Satisfactory precautions shall be taken to prevent scratching or scraping of interior wall surfaces or other damage to pipes that might be inflicted by the improper use of cleaning equipment.

PIGGING:

•Prior to the use of plastic foam type pigs, a swab made of soft plastic foam shall be sent through the piping to insure that the piping systems fittings, valves and interior dimensions will allow the initial cleaning pig to pass through it without being trapped within the system. Upon examination of this initial swab, subsequent pigs of varying diameters and/or densities shall be sent through the piping system until desired results are readied.

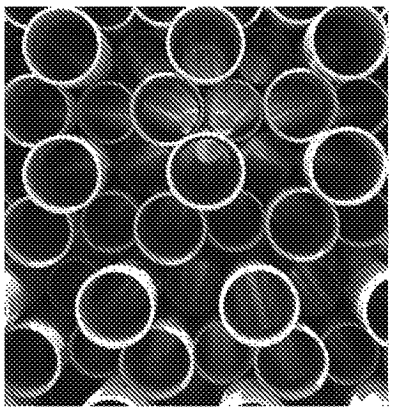


PIGS:

•Pigs shall be manufactured of an open cell polyurethane foam body. Densities may range between 1 1/2# per cubic loot up to 8# per cubic foot density. Some pigs may be wrapped with polyurethane spiral bands, as well as abrasives for longer life or removal of harder scale. Pigs should be able to pass through reduction of up to 60% to 65% of cross sectional area of nominal pipe. Pigs shall be able to traverse standard piping configurations such as 90° elbows, tees, crosses, wyes, gate valves, and ball valves.

CONTRACTOR REQUIREMENTS:

•Contractor shall submit evidence of qualifications to include a list of ten (10) projects of equal or greater scope. Project list shall state the following: dates, feet of pipe, project cost, location, contact person, telephone number. Qualification submittal shall include three (3) letters on client letterhead from stated contact person from the above list of ten (10) projects. All projects must have been completed within the last three years. All contractors must submit valid certification of training issued by an established pig manufacturer:



Pipeline Pigging Products

INCORPORATED



PIPELINE PIGGING PRODUCTS INDUSTRY EXPERIENCE, RESEARCH, KNOW HOW



Pipeline Pigging Products is a manufacturer of internal pipeline cleaners referred to in the trade as "Poly Pigs."

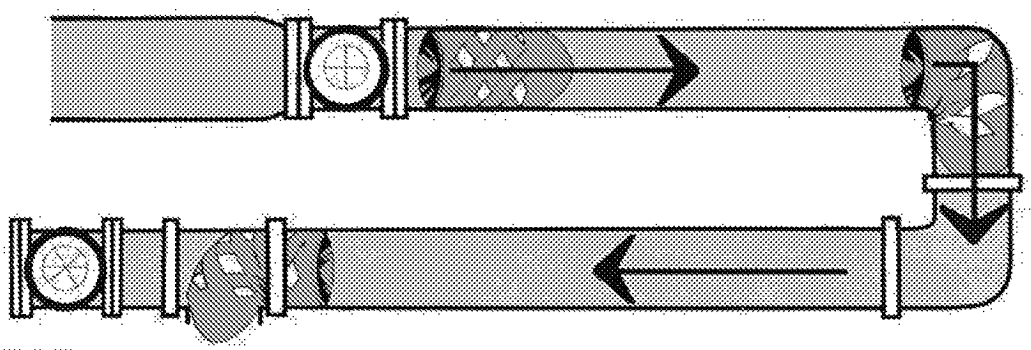
Constructed of flexible open cell polyurethane foam and various external wrappings, Poly Pigs have the ability to negotiate short radius bends, ells, tees, multi-dimensional piping and reduced port valves. The slightly oversized Poly Pig forms a "sliding seal" in the pipe, and is designed to remove product buildup, foreign matter and loose sediment.

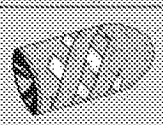
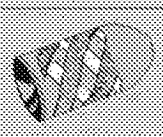
A few of the benefits that Poly Pigs can offer are:

- Increased pipeline carrying capacity
- Improved product quality
- Power savings by reducing pump pressure
- Confirmation of pipe and flow integrity

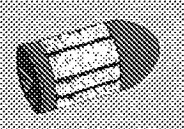
Pipeline Pigging Products offers Poly Pigs in a wide variety of styles (drying, wiping and scraping) to accommodate almost any application, such as oil & gas transmission, municipal, petro chemical, pulp and paper and process piping systems.

With over 60 years of combined experience in manufacturing, research and application, our knowledge of Poly Pigs is unsurpassed in the industry.



APPEARANCE	STYLE	MUNICIPAL SERIES TYPE	DENSITY	APPLICATIONS
	**B1**	Swab	1-2 lbs. cubic foot (16 - 32 Kg/M³	Proving; Sweeping; Sealing
	**B2***	Coated Swab	1-2 lbs. cubic foot (16 - 32 Kg/M³	Light Wiping
	**B3**	Bare	5-7 lbs. cubic foot (80 - 112 Kg/M³	Light Cleaning
	**B4***	Coated	5-7 lbs. cubic foot (80 - 112 Kg/M³	Cleaning
	**B5***	Wire	5-7 lbs. cubic foot (80 - 112 Kg/M³	Scraping

***Available with Rotating Pattern** (see back page)

APPEARANCE	STYLE	TYPE	DENSITY	APPLICATIONS
INDUSTRIAL SERIES				
	**C3**	Bare	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Drying
	**C4***	Coated	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Wiping
	**C5***	Wire	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Scraping
	**C6***	Carbide (Strap)	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Heavy Duty Scraping
	**RX3**	Bare	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Drying
	**RX4***	Coated	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Wiping
	**RX5***	Wire	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Scraping
	**RX6***	Carbide (Grain)	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Regular Duty Scraping
	**G1**	Swab	1-2 lbs. cubic foot (16 - 32 Kg/M^3)	Light Duty Drying
	**G2***	Coated Swab	1-2 lbs. cubic foot (16 - 32 Kg/M^3)	Light Duty Wiping
	**G6***	Carbide (Grain)	1-2 lbs. cubic foot (16 - 32 Kg/M^3)	Light Duty Scraping
APPEARANCE	**SPECIAL APPLICATION SERIES**			
	**PB**	Power Brush ™	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Maximum Scraping
	**CPB**	Plastic Brush	8-10 lbs. cubic foot (128 - 160 Kg/M^3)	Light Wiping
	**RXSS**	Single Spiral	5-7 lbs. cubic foot (80 - 112 Kg/M^3)	Economical Wiping

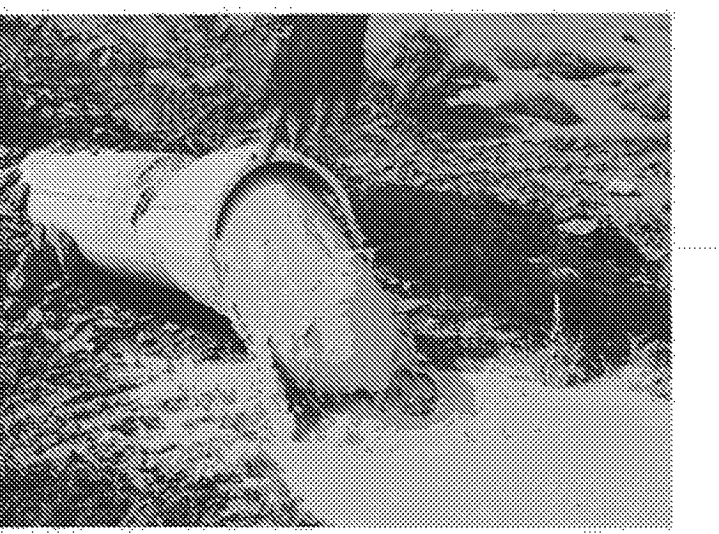
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	Rotating Pattern	— Promotes longer even wear in most applications Available on all coated and wire styles
	Rope Loop(s) Cable Loop(s)	— For handling; pulling Available on all styles
	Double Dish	— Liquid removal; bi-directional runs Available on all styles
	Double Nose	— Bi-directional runs with pipe reductions Available on all styles
	Cavity	— For housing electronic tracking transmitter Available on all styles
	Stud Pig	— Extra hard scale removal



1. Poly Pig exits potable water piping system after traveling 1,300'.

2. A 12" Poly Pig exits piping system after traveling several miles.

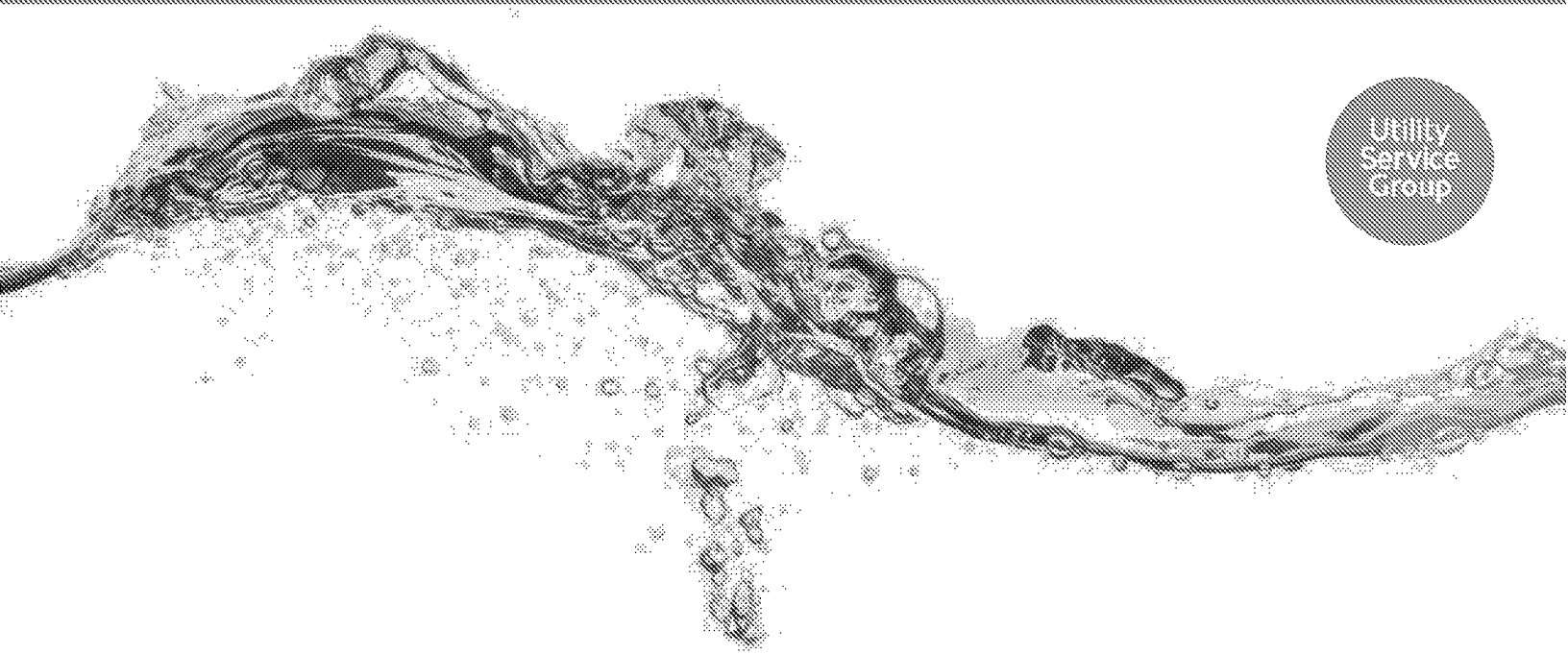


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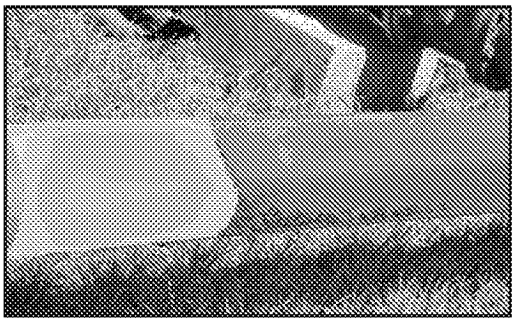
Water Quality Services

USG Advanced Pipe Cleaning (Ice Pigging)



PIGGING

ICE PIGGING for water & wastewater main cleaning



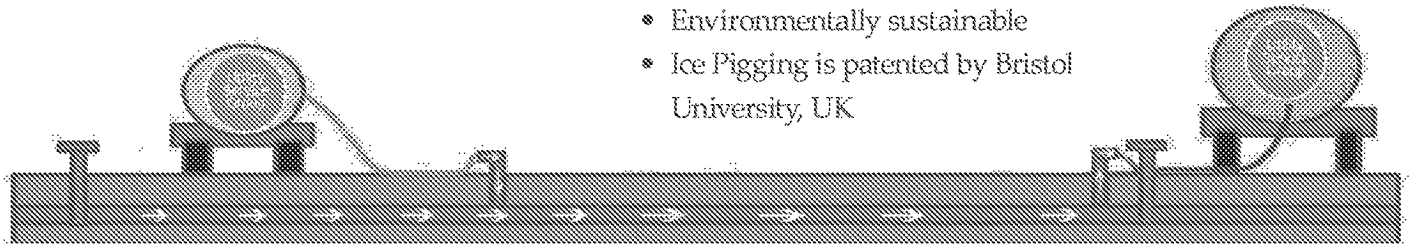


Sustainable, Simple, Innovative and Effective

ICE PIGGING combines the operational advantages of flushing with the cleaning impact of soft pigging. The Ice Pig is a semi-solid that is pumped like a liquid and flows through changes in diameter, bends and fittings without blockage. Ice Pigging has a minimum impact on operations. The ice pig is simply pumped into and recovered from a hydrant at each end of the pipe section without excavation or modification to the hydrant.

Value of Utility Service Group Ice Pigging Program:

- 1,000 times more effective removal of biofilm and sediment
- Produces quantifiable results
- Lowers disinfectant demand
- Requires no excavation
- Minimal downtime
- Requires only 1/2 the time of other techniques
- No requirement to disinfect post cleaning
- Less disruptive/expensive than solid/foam pigging
- Uses 50% less water than conventional flushing
- Environmentally sustainable
- Ice Pigging is patented by Bristol University, UK



Utility Service Group

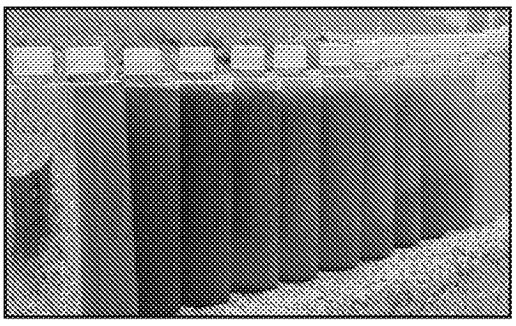
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Utility Service Group has proudly served the potable and industrial water industries for over 50 years.

Today's Utility Service Group provides comprehensive condition assessments, rehabilitation services and sustainable asset management solutions throughout the whole water cycle. Our comprehensive portfolio of innovative, sustainable technologies and custom-designed professional asset management services allow a holistic approach to optimizing water production and distribution systems. USG is the exclusive license holder of ice pigging for water and wastewater applications in the US.

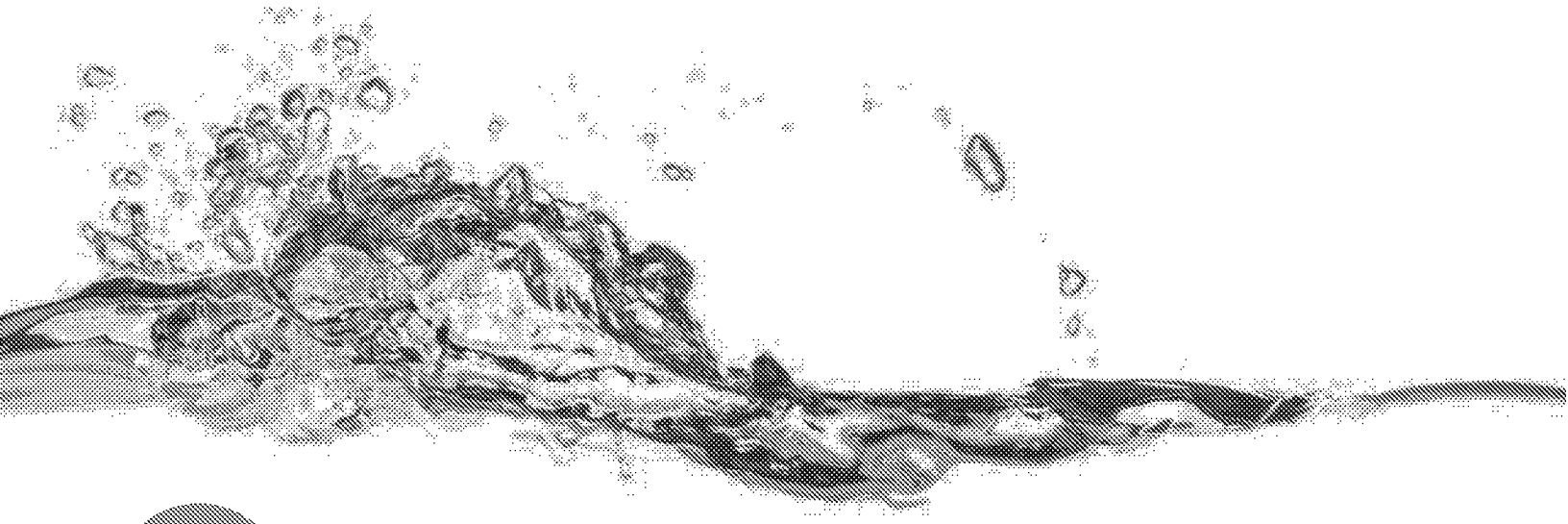
PIGGING

USG Advanced Pipe Cleaning (Ice Pigging)



Utility Service Group Ice Pigging Program includes:

- Combines operational advantages of flushing with cleaning impact of soft pigging
- Ice slurry injected and recovered through hydrants
- System pressure pumps slurry through complex pipe networks
- Pig behaves like a liquid, flows through changes in diameter, through bends and butterfly valves without blockage
- Efficient, rapid and environmentally friendly way to clean water pipes
- Suitable for pipes of all size and material for raw water, potable water and sewer force mains



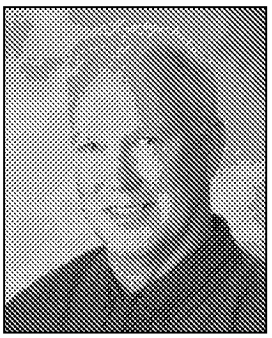
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1230 Peachtree Street NE
Suite 1100 | Promenade
Atlanta, Georgia 30309
Phone 855.526.4413
utilityservice.com

by Gary Armentrout

Flushing and pigging: basic waterline maintenance

The daily operation of a public water system involves different aspects of many separate business and technical disciplines. In the course of a normal workday, operators will take a minimum of one to as many as 10 or 12 water samples. They may look for a water leak somewhere in the distribution system and will talk to three, four or more system customers about a variety of subjects. Operators may change out or add a customer water meter, repair a water leak, discuss purchases with sales reps and recheck meter readings on customer meters because "they just couldn't have used that much water." They might also have discussions with the project engineer about an upcoming project, and still make time to do some maintenance to the distribution system and equipment.



Gary Armentrout
Technical Assistant

Speaking of maintenance, there are many different types of equipment maintenance. They go by the more mundane maintenance monikers of "Before Operations Maintenance Checks," or "During Operations Maintenance Checks" and the not to be left out, "After Operations Maintenance Checks." There is also the entirely separate category of "Preventive Maintenance Checks."

"Maintenance Shmaintenance," it all means the same thing! Maintenance has to be performed on trucks, cars, meters, pumps, hand tools, power tools. It must also be performed on computers, buildings, wells, towers, clear wells, clarifiers and just about every component in the entire system that has zero or more moving parts. Operators need to take care of system equipment if it is to provide long and reliable service.

In this article, the focus is on the part of the system that is nearly invisible and out of sight. It is the distribution system. These pipelines are buried in the cool, dark, damp underground. It is the wish and hope of everyone involved that they stay there, causing no problems – in total silence.

Unwanted buildup on the inside of most water distribution systems has been going on since the day the first valve was turned, and water started to flow through the system. How does a system avoid this buildup or deal with it?

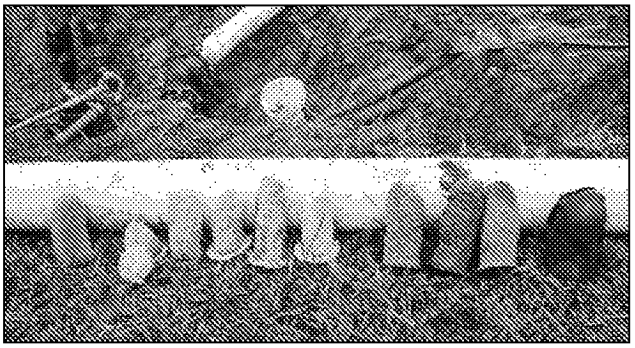
There are many things that can be done to correct this problem.

Unwanted buildup on the inside of most water distribution systems has been going on since the day the first valve was turned, and water started to flow through the system.



A Fort Scott, Kan. city crew inserts a soft pig into a 4-inch ductile iron line.





Left: *The before and after look of a soft pig in the hands of Fort Scott Water Distribution Supervisor Bill Lemke.*

Above: *Pigs in a row, 10 of 12 pigs used in a water line maintenance operation. The missing two pigs came out in pieces less than a quarter dollar in size.*

Some actions include changing the pH of the water, adding certain types of chemicals, and cleaning the inside of the pipe.

Flushing, as a prevention

The purpose of flushing of a water system is to remove any accumulated sediments or other impurities that have been deposited in the pipe. Flushing can also improve the flow of water, in effect, restoring the pipeline to its original capacity. Flushing is performed by isolating sections of the distribution system and then opening flush or fire hydrants to allow a large volume of water to move through the isolated pipeline and scour out any sediment.

Pigging, as a remedy

Water mains may also be mechanically cleaned with the use of swabs or pigs, as well as a variety of other means. KRWA has published numerous articles on the topic of pigging, describing the benefits of the projects from improved water quality to greater energy efficiency,

Pigs are devices that are forced through a section of line to scrape the accumulated deposits off the inside of the pipe. Pigging is now routinely conducted at the time of installing new waterlines. While some might contend that a requirement to pig a pipeline adds to the cost, I respectfully suggest that if project circumstance were to prohibit a contractor from pigging, the cost should increase. It's been proven that pigging newly installed pipelines reduces water loss due

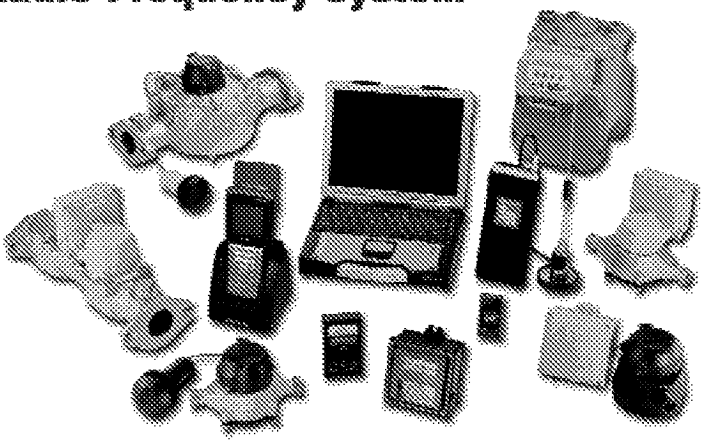
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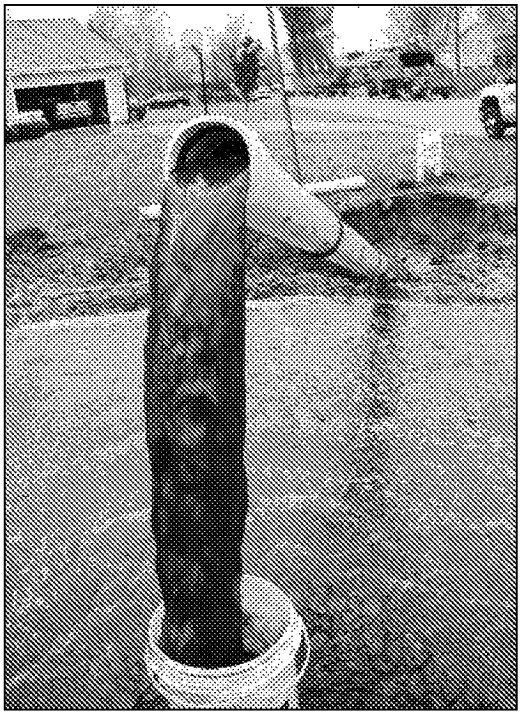
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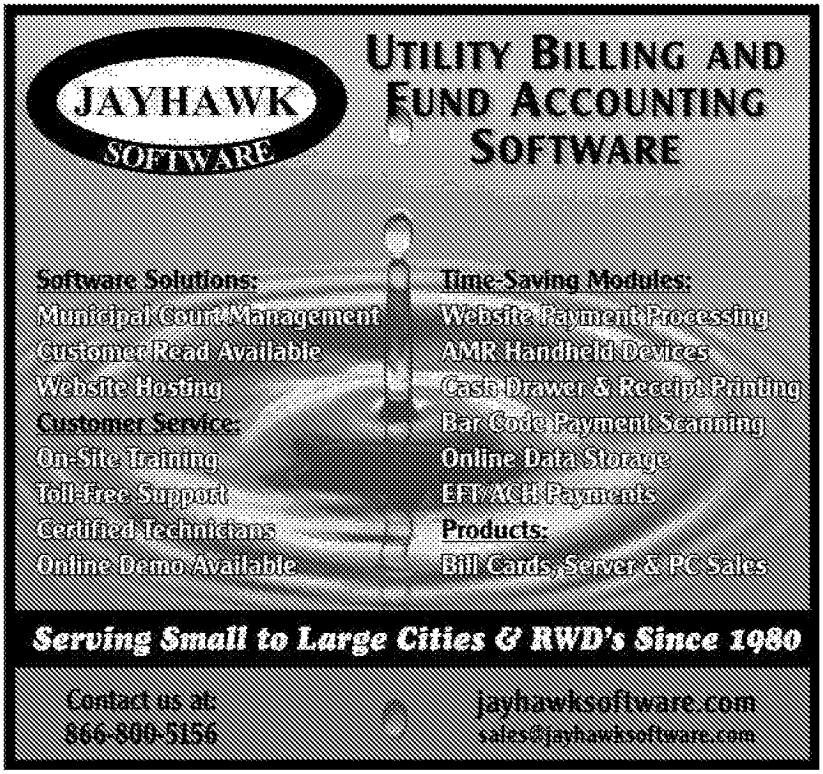


The concentration of buildup is evident coming from the inside of a ductile iron main. After years of operation and depending on water quality, excessive mineral deposits often build up inside waterlines. Pigging can often remove the deposits, improving water quality and flow characteristics.

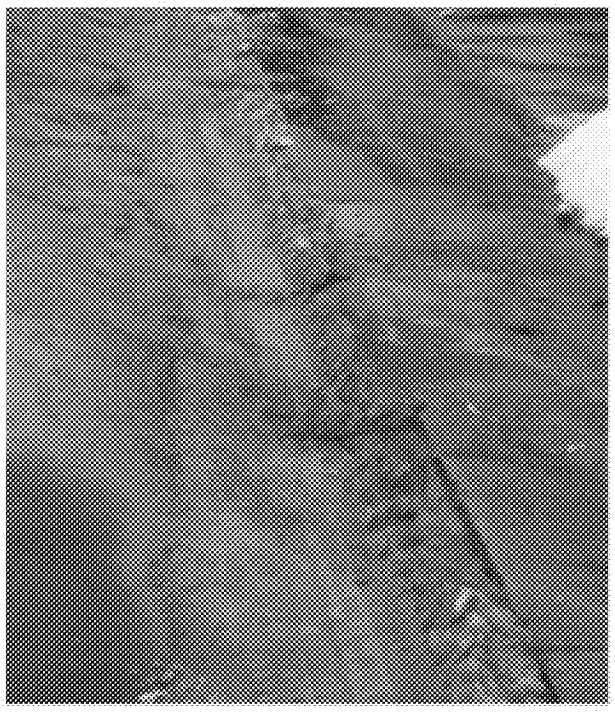
to flushing by 75%, to say nothing for the reduction of labor to complete the process of getting a new extension or pipeline into service.

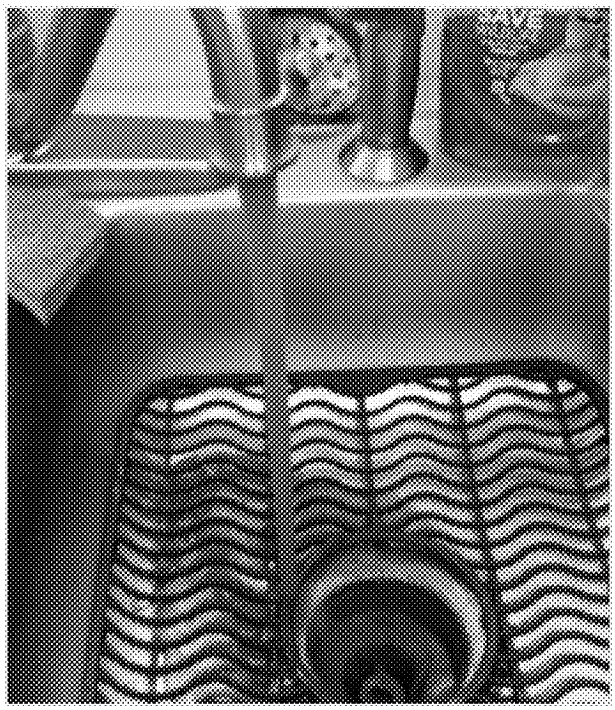
When there is a buildup inside water lines that cannot be removed by simple flushing, pigging is a cost efficient, effective and environmentally friendly alternate. Most important, it is an economical alternate to line replacement. No matter what type of pipe is in the distribution system, there is a pig to do the job as needed. There are four basic types of pigs used today. Each pig is designed for a specific job. They are the polyurethane foam pigs, mandrel or mechanical pigs, solid cast urethane pigs and the high tech "smart pigs." If a system's water lines are cast iron or ductile iron, there is a very good chance of needing to pig at least some sections. The deposits in the pipelines can cause enough restriction that flow will be reduced. PVC lines normally are not subjected to the same degree of buildup as cast iron or ductile iron pipelines. PVC however will often have sediment at the bottom of the pipeline along with a thin coating covering the entire inside. A foam pig can normally remove this type of buildup. This type of pig can also be reused after traversing segments of PVC pipe. If, on the other hand the pig is used in a cast or ductile iron pipe, it is usually torn to shreds as it moves through the line. It is KRWA's experience that pigging small diameter iron pipelines may not be practical if there is a high degree of buildup. It may be impossible to remove hardened deposits from small diameter lines of one to four inches. KRWA techs have experienced pigging projects where a city system had some 4-inch pipeline with so much buildup that no daylight could be seen through even a 20-foot section.

Pipe maintenance is a very important part of the overall maintenance program of any water system. I suggest that systems practice flushing as a preventive measure and pigging as a remedy. If assistance is needed in setting up a maintenance program for a city or RWD, or there is a need to discuss flushing or pigging, contact KRWA at 785/336-3760 or e-mail KRWA at krwa@krwa.net.











From: Wurfel, Brad (DEQ)
Sent: Friday, March 13, 2015 6:49 PM
To: Hollins, Harvey (GOV)
Cc: Wyant, Dan (DEQ)
Subject: Part II
Attachments: FOIA Request Flint Water.doc

Importance: High

This is the second issue I mentioned earlier today.
In December, our staff became peripherally aware that the hospitals in Genesee were seeing an uptick in Legionnaires cases.

Legionnaires is a water-borne illness. It essentially is a type of pneumonia caused by a bacteria. It is treated with antibiotics. Untreated, it can be deadly. It most often manifests in nursing homes and assisted living facilities, because the transmission is through water vapor getting into lungs – via air conditioners, vaporizers or low-flow shower heads that produce a lot of misting. You can drink water with this bacteria in it and not get sick – it has to enter the lungs in vapor.

I don't have any details on the cases, but here is what I understand to this point:

- More than 40 cases reported since last April. That's a significant uptick – more than all the cases in the last five years or more combined.

- April / May is usually the start of Legionnaires season – it proliferates in warmer months – but April also is the point at which the city switched to the Flint River as a source.

- County Health Departments are supposed to perform epidemiological tracebacks on all confirmed cases of this disease, to locate the source and address it. Genesee County Health had not done this work as of November. At a January meeting with area hospitals, MDCH, DEQ and others, Nick Lyon reportedly directed the county health folks, in terms not uncertain, to get this done as a priority. As I'm sitting here today, it still is not done to my knowledge.

- My counterparts at MDCH informed me today that they cannot step in unless they are invited or unless the outbreak is multi-county. They've not been invited until, I believe, today. That may be in part because of the email string and letter I've enclosed here, which was unknown to MDCH until I shared it over to them.

The email thread below is best read bottom-to-top, and read prior to reading the enclosed FOIA to the city.

Essentially, Jim Henry with Genesee County Health is putting up the flare. He's made the leap formally in his email that the uptick in cases is directly attributable to the river as a drinking water source – this is beyond irresponsible, given that is his department that has failed to do the necessary traceback work to provide any conclusive evidence of where the outbreak is sourced, and it also flies in the face of the very thing a drinking water system is designed to do.

DEQ did not receive this FOIA, which appears designed to buttress his position in the email -- that sections of the water delivery system may be harboring this bacteria. We think it would be highly unlikely that anything would be found around the plant, where the water is treated. Most often, this bacteria forms at the building / residential point in the system. Legionnaires is NOT among the 90 water contaminants screened in the Safe Drinking Water Act, but in the absence of action by county health, our staff are now considering taking samples from various points in the system and working with DCH's lab to test for it, if for no other reason than to rule it out.

Regardless, the accusation is serious and the nature of the communication leaves me thinking we would be advantaged to bring together all the agencies asap to share what information we have and develop a response / screening strategy before the weather gets warm again.

I realize these are long emails. Thanks for your patience.
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
517-230-8006 cell

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, March 12, 2015 8:41 AM
To: Wurfel, Brad (DEQ); Sygo, Jim (DEQ); Howes, Sarah (DEQ)
Cc: Shaler, Karen (DEQ); Benzie, Richard (DEQ); Devereaux, Tracy Jo (DEQ); Busch, Stephen (DEQ)
Subject: FW: Information Request and Documentation
Importance: High

The district received this late Tuesday.

Steve Busch has indicated that the district has not received a meeting request from Jim Henry or the Genesee County Health Department as indicated in his email below.

The FOIA is specifically directed to the City of Flint not the DEQ.

While the change in source may have created water quality conditions that could provide additional organic nutrient source to support legionella growth, there is no evidence or confirmation of legionella coming directly from the Water Treatment Plant or in the community water supply distribution system at this time.

Seems like the next step is to communicate with DCH and possibly develop a joint strategy/response. Not sure who in Exec wants to take the lead on this. Steve Busch and Mike Prysby will continue to be lead for us on this. They have been in contact with DCH recently but only to learn that little progress has been made in identifying a source or sources for the illnesses.

EMAIL FROM DEQ TO HENRY SENT THIS AFTERNOON:

Mr. Henry,

The January 27, 2015, FOIA request you provided was directed to the City of Flint, not the DEQ. The DEQ has no record of a FOIA request from your office for such information. It is our understanding that the City has responded to your FOIA request, has helped you adequately redefine your request within the City's scope of public record to address such ambiguities as "any additional areas of concern", and provided you with additional information beyond the scope of your request.

The DEQ fully recognizes the public health threat posed to individuals that contract Legionnaires' Disease with the understanding that the disease is not contracted by ingestion of potable water and therefore not regulated under the federal Safe Drinking Water Act. Your email below claims that you have explicitly explained the situation to our Department. However, since contacting our office early last October to indicate a rise in cases, we have not received any further information regarding your epidemiological investigation into this matter.

Further, conclusions that legionella is coming from the public water system without the presentation of any substantiating evidence from your epidemiologic investigation appears premature and prejudice toward that end.

It is highly unlikely that legionella would be present in treated water coming from the City of Flint water treatment plant given the treatment plant's use of ozone along with complete treatment and chlorine disinfect contact time to comply with federal surface water treatment rules for potable water. Detections of total coliform or heterotrophic bacteria in the City's public water distribution system indicate an environment where bacterial growth may be supported. However, there is no direct correlation that can be made to the presence of legionella. While total organic carbon levels in potable water may serve as a food source for bacteria growth in private plumbing system, water temperatures in the City's distribution system are below legionella growth range, and chlorine residual levels would also limit such growth.

Our office agrees that water main breaks, water leaks, and system repairs are possible vectors for legionella to enter the public water system. These should be investigated as part of your epidemiology. DEQ staff can be made available to assist GCHD and the City regarding such matters, but to date no request by GCHD for any such meeting has been received, let alone declined as alleged in your email.

If GCHD is seeking assistance to complete its epidemiological investigation regarding this matter, such resource requests should be directed to the Michigan Department of Community Health. Our Office agrees that a multi-agency partnership would be beneficial to move forward and develop a unified response. In that respect, if our Office can be of any further assistance you may contact me directly.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: "Henry, James" <jhenry@gchd.us>
Date: March 10, 2015 at 6:40:17 PM EDT
To: Howard Croft <hcroft@cityofflint.com>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, Elizabeth Murphy <emurphy@cityofflint.com>, "Natasha Henderson" <nhenderson@cityofflint.com>, Jerry Ambrose <gambrose49@gmail.com>, Dayne Walling <dwalling@cityofflint.com>
Cc: "Valacak, Mark" <MVALACAK@gchd.us>, "Cupal, Suzanne" <scupal@gchd.us>, "Hasan, Shurooq" <shasan@gchd.us>, "Childs, Bonnie" <BCHILDS@gchd.us>, "Hallwood, Dawn" <dhallwood@gchd.us>, "Johnson, M.D., Gary" <GJOHNSON@gchd.us>
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

January 27, 2015

FOIA Coordinator, City of Flint
1101 S. Saginaw Street, 3rd floor
Flint, MI 48502

RE: Flint Water Plant Information Request

Dear FOIA Coordinator,

Under provisions of the Michigan Freedom of Information Act (MCLA 15.231 et seq; MSA 4.1801 (1) et seq) please provide copies of the following:

Provide specific water testing locations and laboratory results within the City of Flint public water system for Coliform, E-coli, Heterotrophic Bacteria and Trihalomethanes from January 1, 2010 to January 27, 2015. Provide any additional water testing that has been conducted for identifying potential public health risks. Include any available mapping of the water testing areas.

Provide a map delineating the boundaries of the City of Flint water distribution system. Include any changes to the boundaries, along with corresponding dates from January 1, 2014 to January 27, 2015.

Provide a map or list of locations, detailing dead ends, pooling, low pressure and any additional areas of concern within the City of Flint water distribution system. Include any modifications to the water distribution system addressing concerns, along with corresponding dates from January 1, 2014 to January 27, 2015.

If you determine that any of the requested information is exempt from disclosure, please detail what is being withheld and cite the exemption under FOIA. I anticipate the request being filled within five working days of receipt of this letter, as provided under FOIA. Please contact me at (810) 257-3618 if there are fees associated to comply with this request.

Sincerely,

Jim Henry
Jim Henry
Environmental Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502

From: Thelen, Mary Beth (DEQ)
Sent: Friday, March 20, 2015 12:19 PM
To: DEQ-EXE-800 Meeting Attendees
Cc: DEQ-EXE-MGMT-TEAM;DEQ-EXE-MGMT-TEAM-Secretaries;DEQ-District-Coordinators
Subject: Director's 8:00 Exec Team List for March 23, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-8:30 Executive meeting on Monday, March 23, 2015. Ha Fitch **is scheduled to attend the 8:00 to give us a short update on issues for the week.**

The Director is on annual leave but asked that Jim Sygo chair the 8:00 and 8:30 meetings. I am sending this to the SMT and district coordinators as well in case these issues come up at the 8:30 meeting. Liane Shekter Smith will be presenting ODWMA priorities at the 8:30 meeting. Leigh Patterson will send out the 8:30 STM agenda this afternoon. Thanks.

Executive
- Legislative Hearings
- Governor's Summit on Recycling
- Director's Advisory Council for April
- Budget
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, March 27, 2015 2:18 PM
To: DEQ-EXE-800 Meeting Attendees;Fiedler, Lynn (DEQ)
Cc: Barr, Carrie (DEQ)
Subject: Director's 8:00 Exec Team List for March 30, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-9:30 Executive meeting on Monday, March 30, 2015. Lynn Fiedler **is scheduled to attend the 8:00 to give us a short update on AQD issues.**

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- Part 5, Part 13, Part 23, Part 22
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- 201 Amendments
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Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, April 03, 2015 11:43 AM
To: DEQ-EXE-800 Meeting Attendees
Cc: DEQ-EXE-MGMT-TEAM;DEQ-EXE-MGMT-TEAM-Secretaries;DEQ-District-Coordinators
Subject: Director's 8:00 Exec Team List for April 6, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:
(also sending this for the 8:30 SMT meeting)

Below are the Director's items for the 8:00-8:30 Executive meeting on Monday, April 6, 2015. Rich Alexander **is scheduled to attend the 8:00 to give us a short update on OEA issues.**

Director is on annual leave and Jim Sygo will chair the 8:00 and 8:30 meetings.

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- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, April 10, 2015 1:44 PM
To: DEQ-EXE-800 Meeting Attendees;Creal, William (DEQ);Fish, Kim (DEQ)
Cc: Smith, Laura (DEQ);Thelen, Mary Beth (DEQ);Vanportfleet, Jennifer (DEQ);Wilcox, Candra (DEQ);Copen, Leigh (DEQ);Shaler, Karen (DEQ);Vaughn, Kari (DEQ)
Subject: Director's 8:00 Exec Team List for April 13, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-9:30 Executive meeting on Monday, April 13, 2015. Bill Creal **is scheduled to attend the 8:00 to give us an update on WRD issues.**

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- Plainfield Township

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- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, April 15, 2015 4:42 PM
To: DEQ-EXE-800 Meeting Attendees;Wagner, Robert (DEQ);Erickson, Susan (DEQ)
Cc: DEQ-EXE-MGMT-TEAM;DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Director's 8:00 Exec Team List for April 20, 2015

(Sending this out a couple of days early due to being out on Thursday and Friday is a busy day)
==========

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-8:30 Executive meeting on Monday, April 20, 2015. **Bob Wagner is scheduled to attend the 8:00 to give us an update on RRD issues. Director may also discuss some of these items at the 8:30 meeting as well.**

Leigh will send out the final SMT meeting agenda on Friday.

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Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

Subject:	Congressman Kildee RE: Wetlands at 10:10
Location:	Telephone at 10:10
Start:	Thu 4/23/2015 9:10 AM
End:	Thu 4/23/2015 9:40 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Thelen, Mary Beth (DEQ)
Required Attendees:	Wyant, Dan (DEQ); Datema, Maggie (DEQ)
Optional Attendees:	Feuerstein, Heather (DEQ); Thelen, Mary Beth (DEQ)

Tentatively scheduled for 10:10.

==========

Mr. Wyant,

Congressman Kildee would like to schedule a conference call with you to discuss the water issues in Flint and Michigan's Wetland Program.

I would like to see if you would have time for this discussion next Thursday, April 23, at 10:00AM.

Thank you,

Nathaniel A. Brunner
Scheduler/Executive Assistant

Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Office Phone: (202) 225-3611
Office Fax: (202) 225-6393
Cell Phone: (202) 803-3212
www.dankildee.house.gov

From: Thelen, Mary Beth (DEQ)
Sent: Sunday, April 19, 2015 9:42 AM
To: Wyant, Dan (DEQ)
Subject: RE: Conference Call with Congressman Kildee

All set!

I contacted Nathan of Kildee's office on Friday afternoon and we are all set for April 23, 10:**10** and they are providing me with a call in number. I will be placing it on your schedule today as well as Maggie. Just ran out of time on Friday afternoon! ☺

Have a great day.

Thanks.
MBT

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Wyant, Dan (DEQ)
Sent: Sunday, April 19, 2015 7:56 AM
To: Thelen, Mary Beth (DEQ)
Subject: Fwd: Conference Call with Congressman Kildee

Dan Wyant

Begin forwarded message:

> **From:** "Brunner, Nathan" <Nathan.Brunner@mail.house.gov>
> **Date:** April 17, 2015 at 2:48:02 PM EDT
> **To:** "wyantd@michigan.gov" <wyantd@michigan.gov>
> **Subject: FW: Conference Call with Congressman Kildee**
>
> Mr. Wyant,
>
> I was following up to see if we might be able to schedule a conference call for the 23rd at 10:00AM?
>
> Thank you sir,
>
> ---

Nathaniel A. Brunner
Scheduler/Executive Assistant
Congressman Dan Kildee (MI-05)

From: Brunner, Nathan
Sent: Thursday, April 16, 2015 10:25 AM
To: 'wyantd@michigan.gov'
Cc: Dickinson, Jordan
Subject: Conference Call with Congressman Kildee

Mr. Wyant,

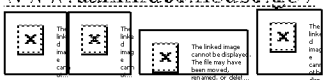
Congressman Kildee would like to schedule a conference call with you to discuss the water issues in Flint and Michigan's Wetland Program.

I would like to see if you would have time for this discussion next Thursday, April 23, at 10:00AM.

Thank you,

Nathaniel A. Brunner
Scheduler/Executive Assistant

Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Office Phone: (202) 225-3611
Office Fax: (202) 225-6393
Cell Phone: (202) 803-3212
www.dankildee.house.gov



Sign up for Congressman Dan Kildee's e-newsletter

From: Thelen, Mary Beth (DEQ)
Sent: Sunday, April 19, 2015 9:51 AM
To: Brown, Eric (GOV)
Cc: Datema, Maggie (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);DEQ-Legislative-Contact
Subject: Congressman Kildee - RE: Call on April 23, 10:10

Hi Eric,

This is to inform you that Congressman Kildee has scheduled a conference call with Director Dan Wyant and Maggie Datema for Thursday, April 23, 10:**10**, using their conference call in number. This is regarding City of Flint water issues as well as the Michigan's Wetland Program.

FYI.

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

Subject: Congressman Kildee RE: City of Flint and Wetlands at 10:10
Location: Telephone at 10:10 See MBT for Call In Number

Start: Thu 4/23/2015 9:10 AM
End: Thu 4/23/2015 9:40 AM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Thelen, Mary Beth (DEQ)
Required Attendees: Wyant, Dan (DEQ); Datema, Maggie (DEQ)
Optional Attendees: Feuerstein, Heather (DEQ)

Confirmed for April 23, 10:**10** using Kildee's Call In Number – See MBT or Folder for Call In Number.

==========

Tentatively scheduled for 10:10.

==========

Mr. Wyant,

Congressman Kildee would like to schedule a conference call with you to discuss the water issues in Flint and Michigan's Wetland Program.

I would like to see if you would have time for this discussion next Thursday, April 23, at 10:00AM.

Thank you,

Nathaniel A. Brunner
Scheduler/Executive Assistant

Congressman Dan Kildee (MI-05)
227 Cannon House Office Building
Washington, D.C. 20515
Office Phone: (202) 225-3611
Office Fax: (202) 225-6393
Cell Phone: (202) 803-3212
www.dankildee.house.gov

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, April 23, 2015 4:55 PM
To: Datema, Maggie (DEQ)
Cc: Wurfel, Brad (DEQ);Wyant, Dan (DEQ)
Subject: RE: Caller: Jordon of Congressman Kildee 202-2225-0989

Brad is our Exec Office lead.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Datema, Maggie (DEQ)
Sent: Thursday, April 23, 2015 4:54 PM
To: Thelen, Mary Beth (DEQ)
Cc: Wurfel, Brad (DEQ); Wyant, Dan (DEQ)
Subject: Re: Caller: Jordon of Congressman Kildee 202-2225-0989

I am happy to call back but I am not up to speed on any of the Flint Drinking water issues. Who is our exe office lead on this issue?

On Apr 23, 2015, at 4:47 PM, Thelen, Mary Beth (DEQ) <THELENM2@michigan.gov> wrote:

> Maggie,
>
> Jordan of Congressman Kildee's office called regarding another followup question RE: City of Flint. Can you please give him a call at 202-225-0989?
>
> Thank you.
>
> Mary Beth
>
> Mary Beth Thelen
> Management Assistant to Director Dan Wyant
> Department of Environmental Quality
> Constitution Hall, 6th Floor South
> Phone: 517-284-6712 or 284-6700 (new numbers)
> Fax: 517-241-7401
> Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, April 24, 2015 10:23 AM
To: DEQ-EXE-800 Meeting Attendees;Mike Pattwell (MPattwell@ClarkHill.com);Pattwell, Michael (DEQ);McCauley, Sara (GOV);Shekter Smith, Liane (DEQ)
Cc: Vaughn, Kari (DEQ);Wilcox, Candra (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ);Devereaux, Tracy Jo (DEQ);Shaler, Karen (DEQ);Copen, Leigh (DEQ)
Subject: Director's 8:00 Exec Team List for April 27, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:
(Mike, please attend if you can)
(Sara, you are welcome to attend these meetings with the Director and his Executive Division team)

Below are the Director's items for the 8:00-9:30 Executive meeting on Monday, April 27, 2015. Liane Shekter Smith **is scheduled to attend the 8:00 to give us an update on ODWMA issues.**

Executive
- Legislative Hearings
- Governor's Summit on Recycling
- Director's Advisory Council for June
- Budget
- District Visits
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, April 24, 2015 10:44 AM
To: DEQ-EXE-800 Meeting Attendees;Mike Pattwell (MPattwell@ClarkHill.com);Pattwell, Michael (DEQ);McCauley, Sara (GOV);Fitch, Hal (DEQ)
Cc: Vaughn, Kari (DEQ);Wilcox, Candra (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ);Shaler, Karen (DEQ);Copen, Leigh (DEQ);Lawrence, Deana (DEQ)
Subject: Director's 8:00 Exec Team List for April 27, 2015

Update:

Dear Executive Team attending the 8:00 Monday Morning meeting:
(Mike, please attend if you can)
(Sara, you are welcome to attend these meetings with the Director and his Executive Division team)

Below are the Director's items for the 8:00-9:30 Executive meeting on Monday, April 27, 2015. Hal Fitch **is scheduled to attend the 8:00 to give us an update on OOGM issues.**

Executive
- Legislative Hearings
- Governor's Summit on Recycling
- Director's Advisory Council for June
- Budget
- District Visits
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams

- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, May 01, 2015 1:34 PM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators;Goodhall, Mary (DEQ);Bean, Lawrence (DEQ)
Cc: DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Director's 8:00 Exec Team List for May 4, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-8:30 Executive meeting on Monday, May 4, 2015. Bryce **is scheduled to attend the 8:00 to give us an update on OWMRP issues. Director may also bring up some of these issues during the 8:30 meeting. Leigh has sent out the SMT agenda for the 8:30 meeting.**

Executive

- Legislative Hearings
- Employee Survey Results
- Governor's Summit on Recycling
- Director's Advisory Council for June
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From:	Thelen, Mary Beth (DEQ)
Sent:	Thursday, May 07, 2015 9:10 PM
To:	DEQ-EXE-All;Mike Pattwell (MPattwell@ClarkHill.com);Pattwell, Michael (DEQ);McCauley, Sara (GOV)
Cc:	Shaler, Karen (DEQ);Copen, Leigh (DEQ);Olszewski, Rosemarie (DEQ);Thelen, Mary Beth (DEQ);Wilcox, Candra (DEQ);Vaughn, Kari (DEQ);Devereaux, Tracy Jo (DEQ)
Subject:	Director's 8:00 Exec Team List for May 11, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00-9:30 Executive meeting on Monday, May 11, 2015. Liane **is scheduled to attend the 8:00 to give us an update on ODWMA issues.**

Executive

- Legislative Hearings
- Employee Survey Results
- Greater Detroit Chamber – Mackinac Island Conference
- Governor's Summit on Recycling
- Director's Advisory Council for June
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District
- Enforcement Policy
- Communications
- Michigan Petroleum Pipeline Task Force
- New Legislators
- One Voice Document
- Farm Bill Updates
- ORR
- Resource-Based Industry

Admin
- Budget
- Grant Summit

AQD
- Sappi Paper
- 111d Updates

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice

- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Radioactive Waste
- TENOEM Draft Report
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22
- Plainfield Township

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, May 15, 2015 11:59 AM
To: DEQ-EXE-800 Meeting Attendees
Cc: DEQ-EXE-MGMT-TEAM;DEQ-EXE-MGMT-TEAM-Secretaries;DEQ-District-Coordinators
Subject: Director's 8:00 Exec Team List for May 18, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00 Executive meeting on Monday, May 18, 2015. Lynn Fiedler **is scheduled to attend the 8:00 to give us an update on AQD issues. Director may also bring some of these items up at the 8:30 SMT. Leigh Copen will send out the SMT agenda and other documents this afternoon.**

Executive

- Legislative Hearings
- Employee Survey Results
- Organizational Excellence
- Greater Detroit Chamber – Mackinac Island Conference
- Quebec in June
- Director's Advisory Council for June
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District
- Enforcement Policy
- Michigan Petroleum Pipeline Task Force

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Recycling Council Updates

- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, May 22, 2015 8:34 AM
To: DEQ-EXE-800 Meeting Attendees;Mike Pattwell (MPattwell@ClarkHill.com);Pattwell, Michael (DEQ);McCauley, Sara (GOV)
Cc: Shaler, Karen (DEQ);Olszewski, Rosemarie (DEQ);Vaughn, Kari (DEQ);Copen, Leigh (DEQ);Feuerstein, Heather (DEQ);Wilcox, Candra (DEQ)
Subject: Director's 8:00 Exec Team List for Tuesday, May 26, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00 Executive meeting on Tuesday, May 26, 2015.

- Greater Detroit Chamber – Mackinac Island Conference
- Michigan Petroleum Pipeline Task Force
- Legislative Hearings
- Employee Survey Results
- Organizational Excellence
- Greater Detroit Chamber – Mackinac Island Conference
- Quebec in June
- Director's Advisory Council for June
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District
- Enforcement Policy
- Michigan Petroleum Pipeline Task Force

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP
- Recycling Council Updates

- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you. Have a great weekend.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Friday, May 29, 2015 2:13 PM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators;Goodhall, Mary (DEQ);Bean, Lawrence (DEQ)
Cc: DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Director's 8:00 Exec Team List for June 1, 2015

Dear Executive Team attending the 8:00 Monday Morning meeting:

Below are the Director's items for the 8:00 Executive meeting on Monday, June 1, 2015.

Bill Creal is scheduled to attend the **8:00** to update us on quick WRD issues. Director may also bring up any of these issues at the 8:30 SMT meeting. Thank you.

- Greater Detroit Chamber – Mackinac Island Conference Updates
- Michigan Petroleum Pipeline Task Force
- Legislative Hearings
- Employee Survey Results
- Organizational Excellence
- Quebec in June
- Director's Advisory Council for June
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District
- Enforcement Policy
- Michigan Petroleum Pipeline Task Force

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water
- SAW Grants

OWMRP

- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thank you. Have a great weekend.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: McCauley, Sara (GOV)
Sent: Thursday, June 04, 2015 9:45 PM
To: Thelen, Mary Beth (DEQ)
Cc: Wyant, Dan (DEQ)
Subject: Re: Director's 8:00 Exec Team List for Monday, June 8, 2015

As a reminder, I am in Maine next week and I unavailable to attend. Feel free to call me on my cell phone if anything is needed. PPI

SWM

Sent from my iPhone

On Jun 4, 2015, at 6:43 PM, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov> wrote:

> Dear Executive Team attending the 8:00 Monday morning meeting:
>
> Below are the Director's items for the 8:00 Executive Team meeting on Monday, June 8, 2015. FYI, the Director, Maggie, and Karen T. will be driving to Jackson on Monday morning for the Jackson District visit, but the Director plans to call in for this 8:00 am meeting and wants to discuss the Water Strategy.
>
> - Water Strategy
> - Michigan Petroleum Pipeline Task Force
> - Legislative Hearings
> - Employee Survey Results
> - Organizational Excellence
> - Quebec on June 12-14
> - Director's Advisory Council for June
> - Budget
> - District Visits – June 8, Jackson District; June 19, SE MI District
> - Enforcement Policy
> - Michigan Petroleum Pipeline Task Force
>
> Admin
> - Budget
>
> AQD
> - 111d Updates
> - Air Rules
>
> OGL
> - Water Strategy
>
> OEA
> - Action Learning Teams
> - Environmental Justice
> - Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Karen Shaler for
Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From:	Thelen, Mary Beth (DEQ)
Sent:	Friday, June 19, 2015 1:34 PM
To:	DEQ-EXE-800 Meeting Attendees;McCauley, Sara (GOV);Pattwell, Michael (DEQ);Mike Pattwell (MPattwell@ClarkHill.com);Feighner, Bryce (DEQ)
Cc:	Hall, Jean (GOV);Copen, Leigh (DEQ);Shaler, Karen (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ);Wilcox, Candra (DEQ);Vaughn, Kari (DEQ);Willard, Veronica (DEQ)
Subject:	Director's 8:00 Exec Team List for Monday, June 22, 2015

Dear Executive Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Team meeting on Monday, June 22, 2015. Bryce, you are scheduled to attend the 8:00 to give a short update on OWMRP. Jim Sygo, if you would like to call in, please call the main line at 517-284-6700 and we will transfer you to the Director's Conference Room.

Executive

- U.S. EPA Region 5 States Meeting – June 2015
- Water Strategy
- Climate Adaptation (Dave Fiedler)
- Michigan Petroleum Pipeline Task Force
- Legislative Meetings
- Employee Survey Results
- Organizational Excellence
- Update on Quebec on June 12-14
- Director's Advisory Council for June and August
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District. July 22, Saginaw Bay
- Enforcement Policy

Admin

- Budget

AQD

- 111d Updates
- Air Rules

OGL

- Water Strategy

OEA

- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA

- City of Flint Drinking Water
- SAW Grants

OWMRP

- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM

- High Density Oil & Gas Development Workgroup

WRD

- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD

- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, June 24, 2015 9:43 PM
To: DEQ-EXE-MGMT-TEAM;DEQ-District-Coordinators
Cc: DEQ-EXE-MGMT-TEAM-Secretaries
Subject: Director's 8:00 Exec Team List for Monday, June 29, 2015

Dear Executive Team attending the 8:00 Monday morning meeting:

Below are the Director's items for the 8:00 Executive Team meeting on Monday, June 29, 2015. **Hal,** you are scheduled to attend the 8:00 to give a short update on OOGM.
Jim Sygo, if you would like to call in, please call the main line at 517-284-6700 and we will transfer you to the Director's Conference Room.

These items may be discussed at the 8:30 meeting as well. Bryce is scheduled to give updates on OWMRP. You are receiving this early as I will be out of the office later this week. Leigh Copen will send out the SMT agenda on Thursday afternoon. Thank you.

Executive
- U.S. EPA Region 5 States Meeting – June 2015
- Water Strategy
- Michigan Petroleum Pipeline Task Force
- Legislative Meetings
- Employee Survey Results
- Organizational Excellence
- Update on Quebec on June 12-14
- Director's Advisory Council for June and August
- Budget
- District Visits – June 8, Jackson District; June 19, SE MI District. July 20, Saginaw Bay
- Enforcement Policy

Admin
- Budget

AQD
- 111d Updates
- Air Rules

OGL
- Water Strategy

OEA
- Action Learning Teams
- Environmental Justice
- Compliance Assistance/Customer Service/Employee Engagement

ODWMA
- City of Flint Drinking Water

- SAW Grants

OWMRP
- Recycling Council Updates
- Ontario Power Generation and MHSA

OOGM
- High Density Oil & Gas Development Workgroup

WRD
- Water Use
- Lake Erie Issues
- Enbridge
- Waters of the US/Wetlands/Blueberries
- DWSD
- Part 31 Water Rules Strategy
- Part 5, Part 13, Part 23, Part 22

RRD
- 201 Amendments
- 201 Criteria Workgroup

Thanks.

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, July 10, 2015 12:37 PM
To: Busch, Stephen (DEQ);Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ)
Cc: Wyant, Dan (DEQ);Tommasulo, Karen (DEQ);Pallone, Maggie (DEQ);Feuerstein, Heather (DEQ);Thelen, Mary Beth (DEQ);Murray, David (GOV);Brown, Jessica (GOV)
Subject: FW: here's the interim report

Heads up, I just did an interview with Michigan Radio (Lindsey Smith) regarding the lead issue in Flint.

Essentially, one of the residents complained to EPA about water quality in her home, and EPA's lead expert stopped by while he was in town to take some samples. He then completed a draft report and sent it – unvetted by Region V program brass – to the homeowner. That homeowner then leaked it to the ACLU, and the ACLU has been raising hell with it. There's a link to the draft below.

The situation is that Flint is now finishing a second round of statutorily required testing to determine whether the Ph of the Flint River water is causing a problem with lead and copper (popular water line material in old homes). The issue isn't lead in the source water, but in the premise plumbing. So far, tests on 100+ homes last year and another 100 this year are showing the city in compliance with lead and water, so we can say we're not seeing a problem, but we're only 70 % done processing the samples from January – December.

Thanks to Steve Busch for a great debrief on this yesterday afternoon.
b

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Thursday, July 09, 2015 4:48 PM
To: Wurfel, Brad (DEQ)
Subject: here's the interim report

http://www.aclumich.org/sites/default/files/file/EPAWaterReport062415.pdf

--
Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

From: Wurfel, Brad (DEQ)
Sent: Wednesday, July 22, 2015 10:21 PM
To: Wyant, Dan (DEQ)
Cc: Anderson, Madhu (DEQ);Pallone, Maggie (DEQ);Epkey, Amy (DEQ);McCauley, Sara (GOV)
Subject: Re: Flint

I'm not sure what Dennis is receiving. Is he referring to the EPA samples on one home?

As a requirement for the change in water supply sources, 100+ homes are picked and tested in each of two statutorily required sampling exercises. To meet the standard for lead and copper, 90% must pass each round. I believe three homes in the December tests were high, and of the 70 tests we had processed from the Jan - June testing, 5 were high. Busch seemed confident they will meet the standard.

We aren't talking about lead in the water supply here. We are talking about people with lead in their premise plumbing -- old lead connection pipes between their homes and the city pipes, folks with lead pipes in their homes, or folks with old copper pipes sweated together with lead solder.

The reason testing is done is to ensure that the Ph of the water is not reacting with lead in premise plumbing. If less than 10 percent of the served population is experiencing the problem, the system is in compliance with the federal standard.

What of the folks who test high? The city contacts them to let them know they have elevated levels and should get a plumber to check and replace their lead transmission hardware.

The ACLU's fear campaign on this issue is an embarrassment.

It would help perhaps to get a fresh briefing from Steve Busch with final numbers from the recent testing. And then maybe clarification about what the chief wants us to do. The options are not many.
b

Sent from my iPhone

On Jul 22, 2015, at 3:07 PM, Wyant, Dan (DEQ) <WyantD@michigan.gov> wrote:

> Sent from my iPhone
>
> Begin forwarded message:

From: "Muchmore, Dennis (GOV)" <muchmored@michigan.gov>
Date: July 22, 2015 at 3:04:51 PM EDT
To: "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
Cc: "Hollins, Harvey (GOV)" <hollinsh@michigan.gov>
Subject: Flint

I'm frustrated by the water issue in Flint. I really don't think people are getting the benefit of the doubt. Now they are concerned and rightfully so about the lead level studies they are receiving from the DEQ samples. Can you take a moment out of your impossible schedule to personally take a look at this? These folks are scared and worried about the health impacts and they are basically getting blown off by us (as a state we're just not sympathizing with their plight).

From: Wurfel, Brad (DEQ)
Sent: Friday, July 24, 2015 4:18 PM
To: Saxton, Thomas (Treasury);Muchmore, Dennis (GOV);Wyant, Dan (DEQ)
Subject: FW: Need upate on lead / copper tests for Flint
Attachments: DWSD-CorrosionControlStudy.pdf; Flint lead history.pdf; DWSD-Flint-1993-Lead-Letter.pdf

Guys, here's an update and some clarification on the lead situation in Flint. Please limit this information to internal for now.

By the tenants of the federal statute, the city is in compliance for lead and copper. That aside, they have not optimized their water treatment (for the most part, this means adding phosphates to minimize the degree that the water Ph mobilizes lead and copper in people's home plumbing).

Compliance with the standard started with testing. A June-December run of tests (all in homes with lead in their premise plumbing) concluded in December. Another January – June round of sampling concluded last month. Everything checks out in terms of compliance, but now the next step is optimizing the water supply.

So, In about two weeks, DEQ will be sending a formal communication about the optimizing issue. The federal program has long timelines for action. A community water supplier gets 18 months to study the options, and two years thereafter to implement water system optimization measures.

My point: Conceivably, by the time we're halfway through the first timeline, the city will begin using a new water source with KWA … and conceivably, the whole process starts all over again.

In terms of near-future issues, the bottom line is that residents of Flint do not need to worry about lead in their water supply, and DEQ's recent sampling does not indicate an eminent health threat from lead or copper. That said, anyone with lead pipes in their premise plumbing (this translates to tens of thousands of homes in our older urban centers, btw) should at least be aware that they have them, and to some limited degree that's going to impart minute parts per billion of lead in water no matter what. Its why nobody uses lead water pipes anymore.

The long version of this note is below. Let's connect next week. I'd like some thoughts about what more the state could be doing – most immediately, to convey the results of our testing and tell the story to the residents of Flint in an effort to quell some fears.
Thanks!
b

From: Busch, Stephen (DEQ)
Sent: Friday, July 24, 2015 3:46 PM
To: Wurfel, Brad (DEQ)

Cc: Shekter Smith, Liane (DEQ); Wyant, Dan (DEQ); Pallone, Maggie (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Subject: RE: Need upate on lead / copper tests for Flint

Brad,

As we discussed, the City has completed the last round of monitoring (Jan 1 – June 30, 2015). The last samples came in about a week ago. We have made the compliance determination that the 90th percentile level is 11 parts per billion, which is below the Action Level Standard of 15 parts per billion (there is no Lead maximum contaminant level standard). The federal rule requires measuring lead levels in water from household plumbing materials to determine the corrosivity of the City's water in order to limit exposure.

I have provided a summary of Flint's lead compliance monitoring from the last 20+ years since this regulation started in 1991. The City of Flint itself has never had a 90th percentile level exceed the 15 part per billion action level. Sampling requirements look at the worst case plumbing materials. Samples must be collected in accordance with the regulatory requirements and criteria in order to be used for compliance determinations.

Because the City of Flint serves a population of over 50,000 they are required to have Fully Optimized Corrosion Control. While it is possible to meet the fully optimized requirement without additional treatment, based on their two rounds of sampling since switching to the Flint River, we have determined they did not meet the eligibility for this per the regulation. They now have to complete a study (within 18 months) and are then allowed a period of additional time (2 additional years) to install the selected treatment for Fully Optimized Corrosion Control in accordance with the regulatory requirements. This is what DWSD was required to do back in 1993 – 1997 (see attached letter and study). We are planning to suggest the City directly submit a treatment process to shorten the timeline to achieve full optimization. This letter is currently being drafted but won't be ready to mail out for another week.

Liane and I had a conference call with EPA region V in Chicago on Tuesday to go over all of this and they are in support of these next steps with the City.

The matter will be potentially further complicated when the City switches over to water from the Karegnondi Water Authority next year to re-evaluate the continuing requirement to fully optimize corrosion control.

The DEQ recognizes that there is has been no level of lead exposure determined to be safe, but again the regulation was developed to optimize water corrosivity to limit exposure and the City is following the regulatory requirements.

Lead is not coming from the Flint River or the City's Water Treatment Plant or the public distribution system. It is from lead service lines into homes and from plumbing materials and fixtures within the private property of the household.

As watermains are replaced within the City lead services associated with that section of watermain would be replaced in order to reconnect to City water. This would also place burden on the homeowner to pay for having the service line re-plumbed. However, since 2000 only 16 miles of the City's 500 miles of watermain have been replaced as they did not have the financial means to do so.

Let us know if there are questions or you need any additional information.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, July 24, 2015 12:09 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Shekter Smith, Liane (DEQ); Wyant, Dan (DEQ); Pallone, Maggie (DEQ)
Subject: Need upate on lead / copper tests for Flint

Guys, the Flint Ministers met with the Governor's office again last week. They also brought along some folks from the community – a college prof and a GM engineer – who imparted that 80 water tests in Flint have shown high lead levels.

Could use an upate on the January / june testing results, as well as recap of the December testing numbers, and any overview you can offer to edify this conversation.
Call me or email today if possible. Thanks!
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
PPI cell

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
WATER BOARD BUILDING

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226-2830
PHONE 313 • 224 • 4800/224•4801
FAX 313 • 224 • 6067

June 10, 1994

To: DWSD Wholesale Customers

RE: EXECUTIVE SUMMARY OF DETROIT'S CORROSION CONTROL STUDY

Enclosed is a copy of the Executive Summary prepared by our consultant, Tucker, Young, Jackson & Hull, detailing work to date on the Corrosion Control Study performed for Detroit and Detroit's wholesale customers.

The EPA required large utilities to test water samples in highest risk homes for led and copper content in 1992 to determine if the action levels of 15 micrograms per liter and 1.3 milligrams per liter respectively were exceeded. Detroit complied with this requirement and determined that the action level for lead was exceeded in many communities. Therefore, DWSD conducted and continues to conduct a public education program designed to inform consumers how to reduce their exposure to lead.

The EPA further required large water suppliers to determine if their lead could be less corrosive and, if so, the utility was mandated by the Lead and Copper Rule to determine ways the water could be made less corrosive and report their recommendations to the primary agency. For DWSD, the primary agency is the Michigan Department of Public Health (MDPH).

After several years of study, DWSD is forwarding the complete study findings to the MDPH for their consideration. It was concluded that DWSD could reduce the corrosivity of the water in the most cost effective and efficient manner by the addition of ortho-phosphate, specifically in the form of phosphoric acid. The Executive Summary of these findings is being forwarded to you for your information. The MDPH has until the end of December 1994 to consider DWSD's recommendation. In the interim, DWSD plans on conducting a demonstration test of the corrosion control treatment in our distribution system to further assist the MDPH and to further safeguard public health.

Very truly yours,

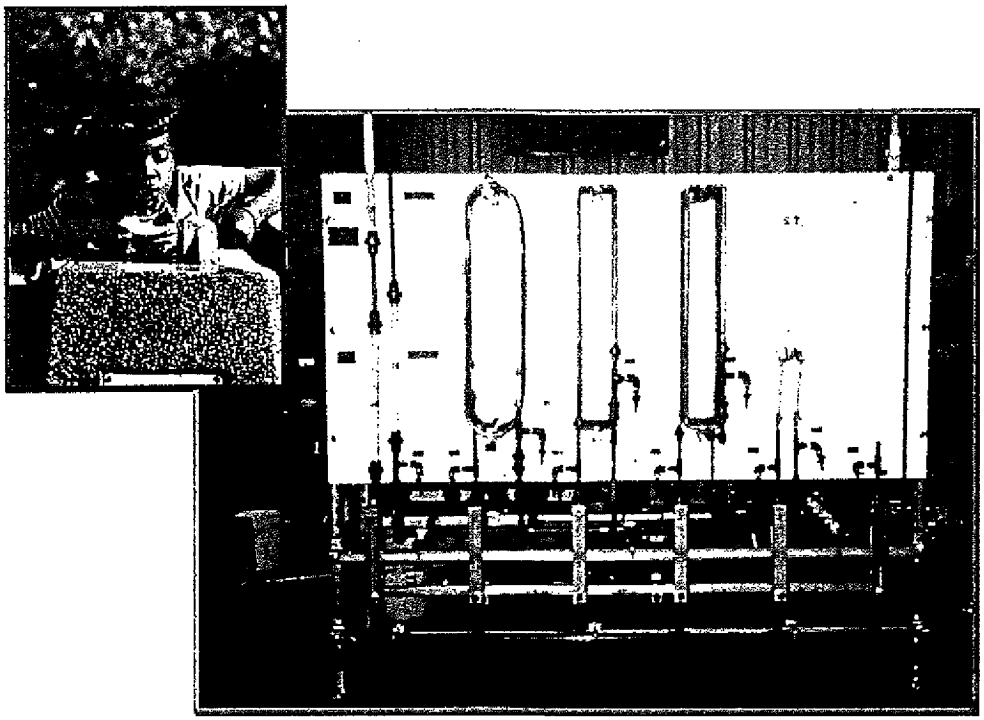
Irving M. Schuraytz, P.E.
Assistant Director, Water Supply Operations

Kathleen Leavey
Deputy Director

KL/IMS/JH/cs

Executive Summary

Lead and Copper Corrosion Control Optimization Study



prepared by

Tucker, Young, Jackson, Tull, Inc., in association with
CH2M HILL, INC., and Economic and Engineering Services, Inc.

May 1994

Detroit Water and Sewerage Department

Introduction

As a result of the Safe Drinking Water Act (SDWA) Amendments of 1986, the U.S. Environmental Protection Agency (EPA) published final drinking water regulations for lead and copper in the June 7, 1991, *Federal Register*. Those regulations, known as the Lead and Copper Rule (LCR), require:

- Tap water monitoring, which is a new approach for water utilities
- Treatment optimization for lead and copper corrosion control
- Public education and lead service line removal if utilities exceed preset lead or copper levels

Large utilities, serving populations greater than 50,000, are required to conduct corrosion control studies to demonstrate that they are either already providing optimal treatment or to determine optimal treatment for their system.

DWSD made necessary public notices and embarked on studies to develop optimal treatment solutions.

In response to the regulations, the Detroit Water and Sewerage Department (DWSD) conducted two rounds of monitoring at home water taps for lead and copper and throughout the distribution systems for other water quality parameters. Monitoring was a cooperative effort between the DWSD, wholesale water customers, and the Michigan Department of Public Health (MDPH). Copper levels were well below EPA limits. Lead levels, however, exceeded EPA action levels (ALs) and DWSD made necessary public notices and embarked on studies to develop optimal treatment solutions.

Lead exposure sources for humans include air, food, dust, paint, and drinking water. Elevated lead levels in blood have been associated with adverse health effects in humans. Federal health authorities have many programs to reduce lead exposure including low-lead gasoline and reduced lead content in paint. Although drinking water may not be the major source of lead, reducing lead levels in drinking water will have a positive health benefit. An additional benefit of corrosion control is prolonged life for water distribution pipes and home plumbing. This results in lower costs for water utilities and their customers.

In March 1992, the DWSD contracted with Tucker, Young, Jackson, Tull, Inc. (TYJT), in association with CH2M HILL, INC., and Economic and Engineering Services, Inc. (EES), to perform a lead and copper corrosion control study. The purpose of the study was to determine the optimal approach for reducing lead and copper concentrations in DWSD drinking water without adversely affecting other water quality characteristics. Major tasks in this study were to:

- Evaluate existing water quality data, existing distribution system pipe materials and the results of lead and copper sampling
- Identify and analyze feasible and practical treatment methods to reduce lead and copper corrosion (desktop analysis)
- Design and construct a pipe-loop testing apparatus to evaluate treatment alternatives identified in the desktop analysis

- Operate the pipe loops for 1 year to evaluate selected corrosion control treatments on different pipe materials
- Evaluate the effectiveness and feasibility of the tested treatment alternatives in reducing lead and copper concentrations
- Recommend an optimum lead corrosion control treatment
- Develop an implementation plan for full-scale corrosion control facilities

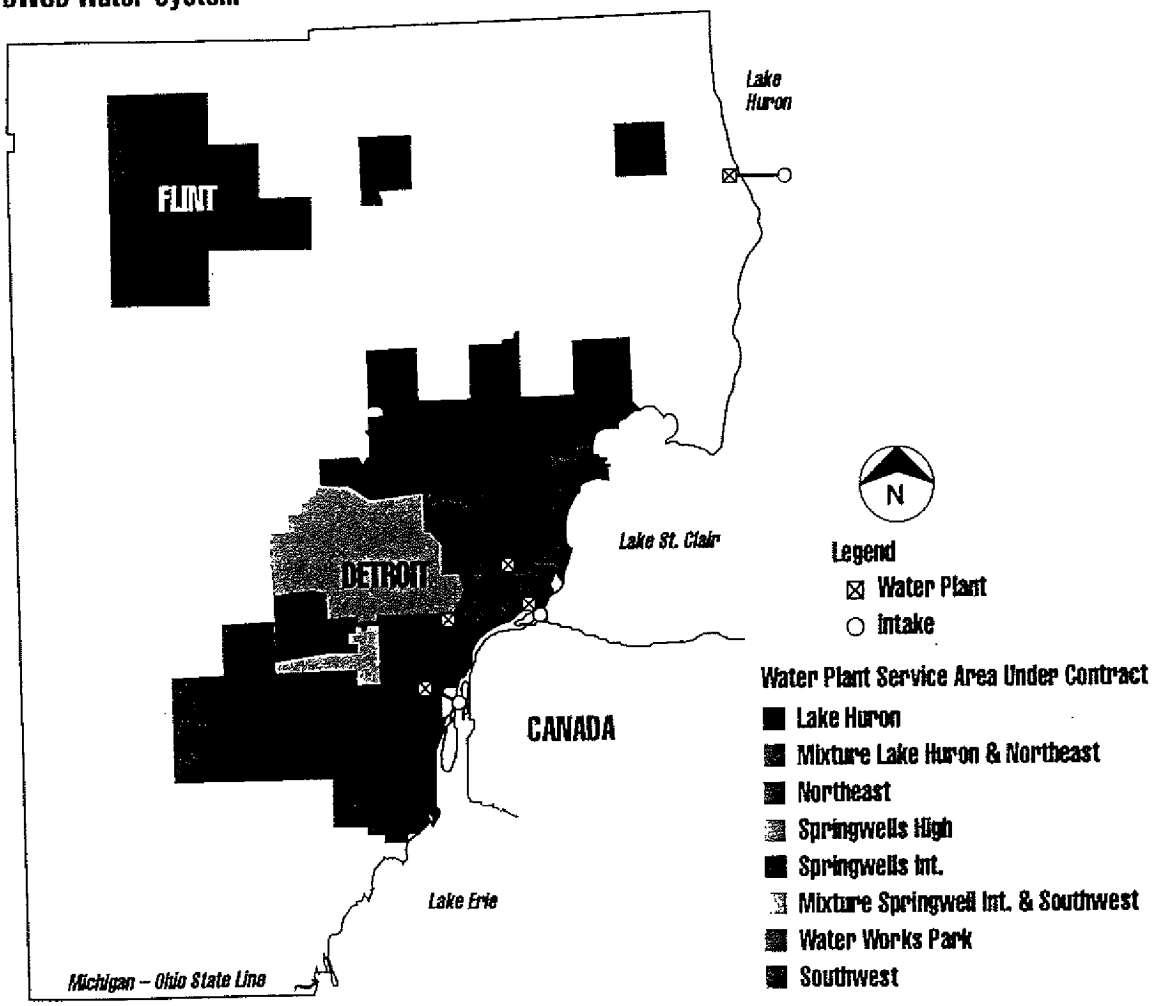
This report presents the results of the DWSD Lead and Copper Corrosion Control Optimization Study.

Existing Conditions

The DWSD obtains water from three intakes. Two of these, the Belle Isle and the Fighting Island Intakes, take water from the Detroit River. The third intake is on Lake Huron. Water is treated at five water treatment plants (WTPs) including the Water Works Park, Southwest, Springwells, Northeast, and Lake Huron WTPs. The water system is shown in Figure ES-1. Treated water from the 5 WTPs is distributed to the City of Detroit and 119 wholesale water customer systems. The DWSD water system serves about 4 million people.

Water leaving the WTPs is of good quality and considered moderately

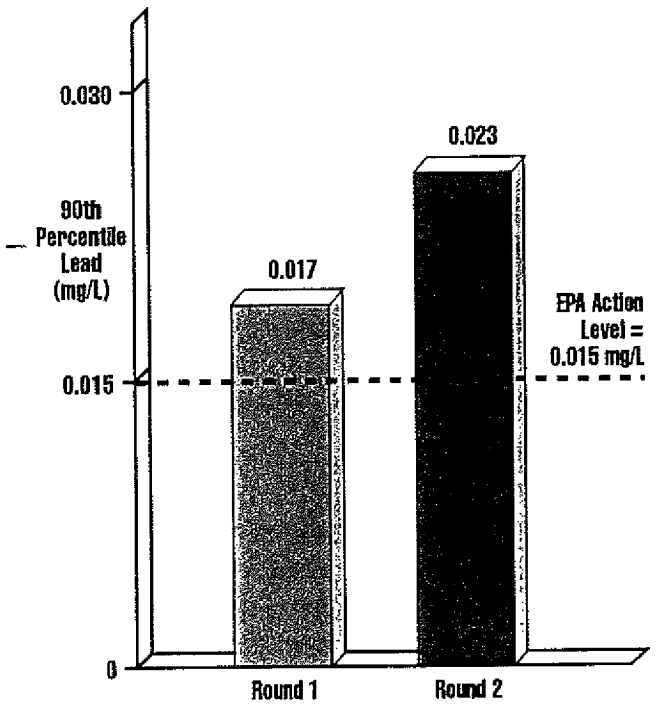
Figure ES-1
DWSD Water System



corrosive. For example, pH from the five WTPs averages 7.4, alkalinity averages 76 mg/L ($CaCO_3$), and hardness averages 100 mg/L ($CaCO_3$). Nevertheless, some increase in lead and copper is resulting from the corrosive action of the water, primarily on service pipe and household plumbing. The main sources of lead are 50:50 lead/tin solder, brass containing lead used in faucets, and lead service lines and plumbing.

The regulation lead AL is 0.015 mg/L at the 90th percentile in home water taps. During the LCR Compliance Monitoring conducted in 1992, DWSD's 90th percentile lead concentration was 0.017 mg/L in the first round and 0.023 mg/L in the second round of sampling (Figure ES-2). Looking at the data in a slightly different manner, 35 to 37 percent of the 119 purveyor water systems exceeded the AL for lead.

Figure ES-2
LCR Compliance Monitoring Results for Lead



For copper, the 90th percentile concentrations were 0.34 and 0.19 mg/L for two rounds of sampling–well below the copper AL of 1.3 mg/L (Figure ES-3). Lead uptake, therefore, is the major concern within the DWSD water system.

Determining the optimal lead control treatment is essential; it is the objective of conducting this corrosion control study. Further, there are an estimated 200,000 lead service lines (LSLs) in DWSD's direct service area and possibly more in areas served by wholesale customers. After corrosion treatment is optimized, the possibility exists that lead ALs may still be over 0.015 mg/L at the 90th percentile. Should this occur, the DWSD would need to embark on a removal program for LSLs, which could cost between $300 and $800 million.

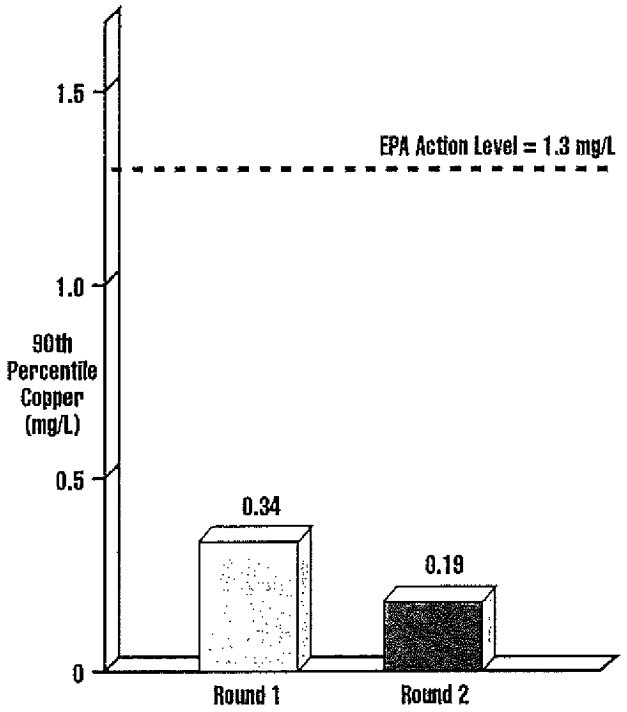
Desktop Analysis

To reduce the number of chemicals for long-term testing, a screening analysis was performed using desktop techniques recommended by U.S. EPA. Lead corrosion control treatment methods examined for their applicability to DWSD are as follows:

- Polyphosphates
- Orthophosphates
- Zinc orthophosphate
- Polyphosphate/orthophosphate blends
- Silicates
- pH adjustment
- Alkalinity adjustment
- Calcium adjustment

The main criteria for selecting a lead corrosion control method is performance for lead uptake reduction. Lead corrosion control methods were also evaluated

Figure ES-3
LCR Compliance Monitoring Results for Copper



based on effects on other drinking water regulations, industrial water users, wastewater treatment, water quality, water treatment operations, consecutive water systems, and multiple sources of supply and treatment.

Based on this evaluation, the following chemical treatments were eliminated from consideration for pipe-loop testing.

- **Polyphosphates.** These products are primarily used to sequester iron, calcium, and manganese and may actually do more to promote lead corrosion than to prevent it.
- **Polyphosphate/Orthophosphate Blends.** These products have not been proven to be more effective than orthophosphates alone for lead reduction, and their proprietary chemical composition makes selection of the optimum product difficult.
- **Silicates.** Sodium silicate inhibitors require a high dosage for lead control and, based on a survey of major industries, would have significant adverse effects on industrial water users.
- **Alkalinity Adjustment.** This technique would have marginal performance for lead reduction based on DWSD water quality and would be impractical for a system the size of DWSD.
- **Calcium Adjustment to Deposit a Calcium Carbonate Layer.** This technique is not a proven method for lead reduction, and would be difficult to produce a uniform layer throughout a distribution system the size of DWSD. Calcium carbonate deposition, however, can occur when pH is raised for lead reduction. This situation is addressed under the pH adjustment alternative.

Lead corrosion control treatment methods applicable for DWSD water are as follows:

- **Orthophosphates.** These products have been shown to be an effective means of lead reduction for water similar to that of the DWSD.
- **Zinc Orthophosphate.** These products are also a proven method of lead reduction, although there is concern about zinc in industrial water and wastewater.
- **pH adjustment.** This technique is also a proven method of reducing lead solubility, although higher pHs affect some industrial users and can increase calcium carbonate deposition.

A survey of 16 Great Lakes area water utilities using water of similar quality to that of DWSD demonstrated the effectiveness of orthophosphate, zinc orthophosphate, and pH adjustment in reducing lead concentrations at the consumers' taps. Those treatment methods, therefore, were retained for further testing in the pipe-loop apparatus.

Pipe-Loop Testing

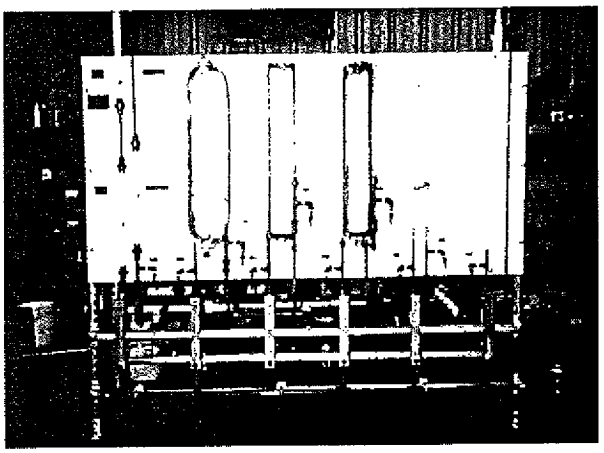
Based on the desktop analysis, it was concluded that the following treatments would be tested in the pipe loops:

- Adjusting pH to 8.1 using sodium hydroxide
- Adjusting pH to 8.7 using sodium hydroxide
- Adding zinc orthophosphate at doses of 0.4 mg/L for zinc and phosphorous (as P)
- Adding orthophosphate using phosphoric acid at a dose of 0.4 mg/L as P

Pipe-loop testing produces information on the corrosion control treatment most likely to effectively reduce lead levels.

It is important to understand that pipe-loop testing is conducted to provide information on the **relative effectiveness** of corrosion control treatments. The results cannot be used to predict actual lead levels that may occur at customers' taps in the water system. Pipe-loop testing, however, produces information on the corrosion control treatment most likely to effectively reduce lead levels and is an approved optimization technique.

Figure ES-4
Typical Testing Apparatus



A pilot-scale testing apparatus was designed and constructed to test each of the treatment techniques on different pipe materials. Five pipe-loop racks were constructed: one for each of the four methods and another for control (no treatment provided). Each pipe-loop rack included one new lead pipe loop, two identical copper pipe loops with lead soldered joints, one brass tester, and one section of old lead pipe. Three weight loss testers were also included for measuring corrosion rates of steel, galvanized steel, and copper. A typical testing apparatus is shown in Figure ES-4.

The pipe-loop facility was installed in the lower level of the Water Works Park High Service Pump Station and operated from January to November, 1993. After an initial period of passivation, water samples were collected on a weekly basis and analyzed for lead, copper, and zinc. The 1-liter water samples were taken after the water had been in contact with the pipe loop materials for 8 hours. This was done to represent the first-draw sampling required by the LCR. Additional sampling included daily monitoring for pH, chemical doses, and temperature. Disinfection

by-products (DBPs) and pipe insert weight loss were done quarterly. Flavor profile analyses to assess any changes in tastes or odors were run monthly.

Results of pilot testing indicated:

- The inhibitor treatments, zinc orthophosphate, and phosphoric acid are statistically better than the untreated control for both old and new lead piping (Figure ES-5).
- For lead solder and copper piping, the median lead levels were lowest in the water with inhibitors (zinc orthophosphate and phosphoric acid), but only the phosphoric acid results were statistically better than the other loops (Figure ES-6).
- For brass, the results indicated that the treatments were no better than the control; however, lead levels were near the detection limit in the brass testers (Figure ES-6).
- Zinc orthophosphate and phosphoric acid were also found to be the most effective treatments in reducing copper (Figure ES-7).

Figure ES-5
Relative Lead Levels from Lead Pipe

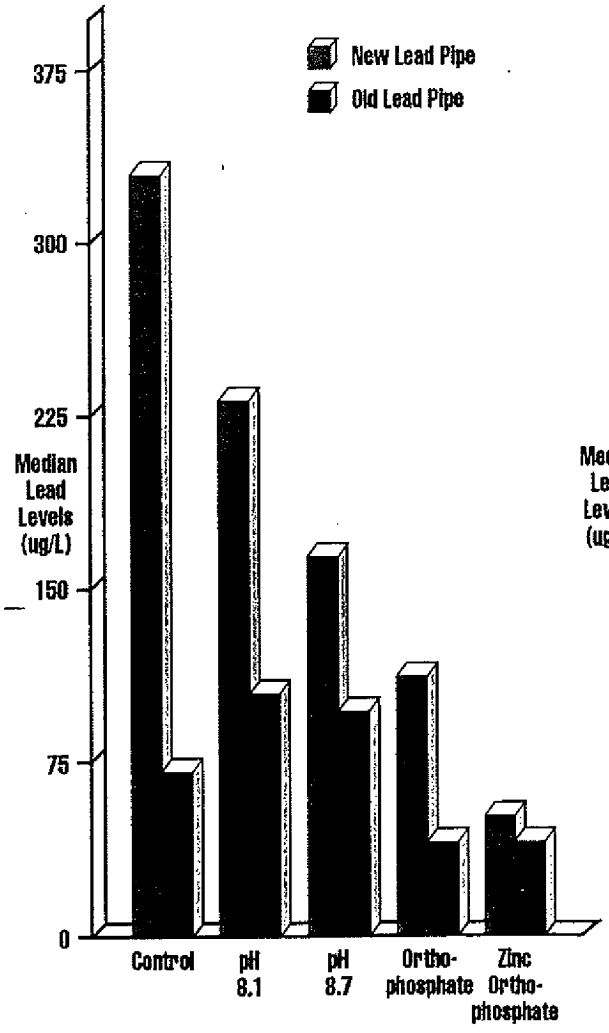


Figure ES-6
Relative Lead Levels from Soldered Copper and Brass

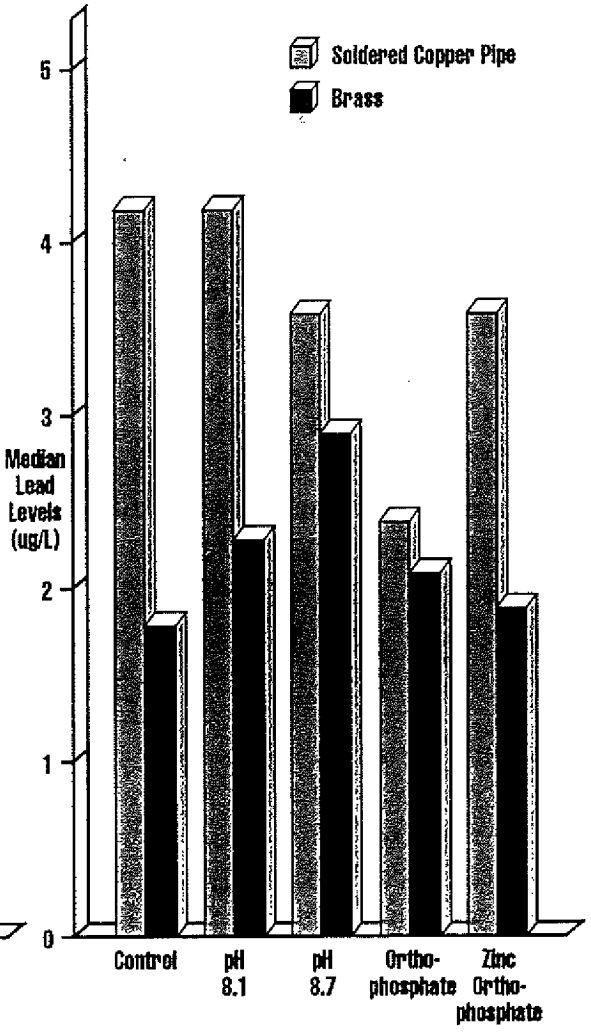
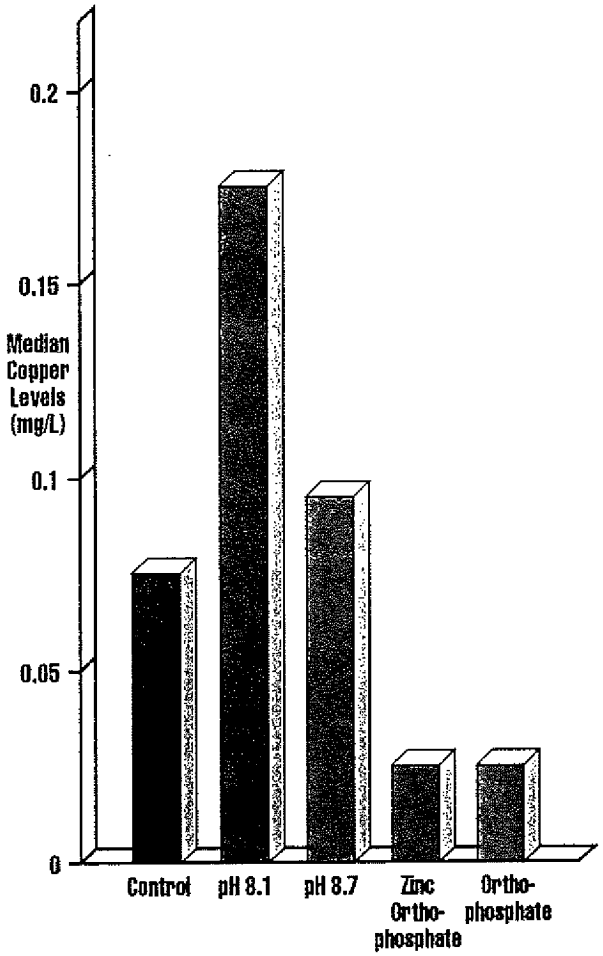


Figure ES-7
Relative Copper Levels from Copper Pipe



- DPBs were increased for the pH adjustment treatments as expected. The DBPs formed as a result of this increase, however, did not exceed EPA-proposed limits. The orthophosphate and zinc orthophosphate did not increase DBPs.
- None of the corrosion control treatments had an adverse effect on the taste and odor of the water produced.

Evaluating Corrosion Control Treatment

The four corrosion control treatments tested in the pipe loops were evaluated based on the following criteria:

- Performance for lead uptake reduction
- Feasibility of implementation within regulatory and functional constraints
- Reliability in terms of operational consistency and continuous corrosion control protection
- Cost

Pipe-loop data analyses indicated orthophosphate and zinc orthophosphate are most likely to yield the best results for lead reduction. pH adjustment was not as effective for lead control. Orthophosphate and zinc orthophosphate were effective at reducing copper levels.

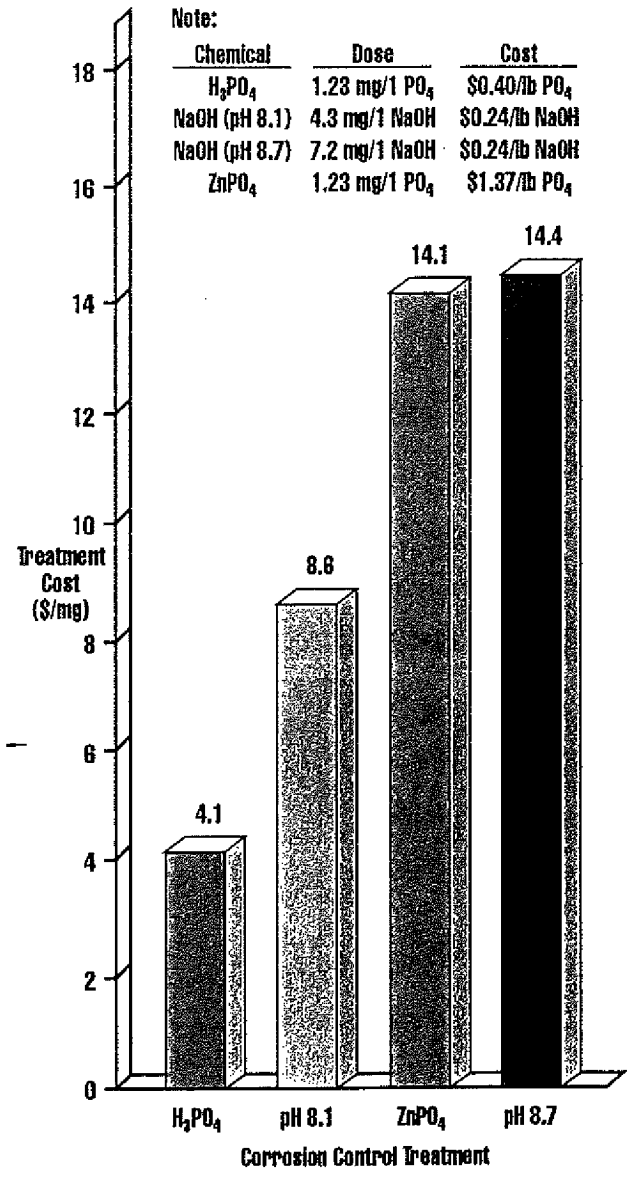
A feasibility analysis indicated that industrial water users would be affected adversely by zinc or a higher water pH. Wastewater operations would be adversely affected by zinc and orthophosphates loadings. There were no major effects of corrosion control treatment on drinking water regulations. pH adjustment could, however, decrease disinfection effectiveness and increase DBP formation.

The reliability of zinc orthophosphate and sodium hydroxide chemicals is less than would be expected for orthophosphates. Zinc orthophosphate is a proprietary chemical with price and supply constraints. Sodium hydroxide availability and price depend on market conditions. Orthophosphate (phosphoric acid) is available as a generic chemical and is commonly used in the food and bever-

age industry; therefore, price and availability are more stable. From a WTP-operations standpoint, pH adjustment is less reliable because pH can change with raw water quality and treatment conditions.

The chemical cost of each treatment alternative is shown in Figure ES-8. Phosphoric acid addition is less than half the cost of pH adjustment to 8.1, the next lowest chemical cost. This represents an average cost savings of about $2,400 per day. Phosphoric acid could save the DWSD about $10 million in present worth in the next 20 years compared to the next lowest cost alternative.

Figure ES-8
Treatment Alternatives Costs



Selecting Corrosion Control Treatment

The relative ranking of alternatives for the four criteria (performance, feasibility, reliability, cost) is summarized in Figure ES-9. Values of 1 through 4 were assigned for each treatment alternative in each criteria category (1 was best; 4 worst). Because performance for lead reduction was the main criteria, it was given a weight of 2. Each of the other criteria was given a weight of 1.

Orthophosphates were ranked highest overall. Zinc orthophosphate was second, mainly because of its adverse effects on industry, wastewater plant operations, and higher costs. pH adjustment was ranked lowest because it is less effective for lead reduction, less reliable, and demonstrates more adverse effects on industry and drinking water regulatory compliance.

Orthophosphates were selected as the optimal treatment alternative for full-scale lead corrosion control.

Based on corrosion control theory, comparison with analogous water systems, and the extensive pilot plant studies, orthophosphates were selected as the optimal treatment alternative for full-scale lead corrosion control.

Figure ES-9
Alternatives Ranking by Criteria

Treatment	Evaluation Criteria				
	Performance wt.= 2	Feasibility wt.= 1	Reliability wt.= 1	Cost wt.= 1	Weighted
Phosphoric Acid	2	1	1	1	7
Zinc Orthophosphate	1	4	2	3	11
pH 8.1	4	2	3	2	15
pH 8.7	3	3	4	4	17

Legend: 1 = Best; 4 = Worst

Phosphoric acid is the recommended form of adding orthophosphate. It is a generic chemical and can be bid competitively. It does not add sodium to the water and costs less than any other form of orthophosphate. In addition, the finished water pH is already in the optimal range for lead solubility reduction by phosphates, so pH adjustment is not required.

The recommended dose of phosphoric acid is 1.2 mg/L as P for initial passivation and a sustained dose of 0.4 mg/L as P for maintaining control of lead uptake. Values may be adjusted based on full-scale results.

Full-Scale Implementation

The LCR requires optimal corrosion control treatment installation by January 1, 1997. To meet this deadline, the implementation schedule in Figure ES-10 is proposed. The first element of implementation is to conduct full-scale demonstration testing in the distribution system served by one of the WTPs before installing chemical feed facilities in the other four plants. Operation of lead corrosion control facilities at all plants is planned for May 1996. This will provide additional time to optimize the system before lead monitoring is required in 1997.

The chemical equipment required for each WTP is summarized in Table ES-1. A schematic of a typical liquid chemical system is shown in Figure ES-11.

The cost of lead corrosion control chemicals is estimated to be about $0.87 per year per household.

The estimated capital cost for corrosion control facilities at the five WTPs is $3,740,000. The estimated cost of chemicals is $868,000 per year. The cost of lead corrosion control chemicals is estimated to be about $0.87 per year per household.

A monitoring program will be established before and after corrosion control treatment is implemented to determine performance for lead reduction and effects on other water quality parameters. If lead is reduced to below the EPA AL of 0.015 mg/L for two consecutive 6-month monitoring periods, other methods of lead reduction, such as removing lead service lines, will not be required.

If the lead AL is still exceeded after optimization and stabilization, a program for lead service line removal should be developed in addition to an ongoing public education program.

Operation of lead corrosion control facilities at all plants is planned for May 1996.

Figure ES-10
Implementation Schedule

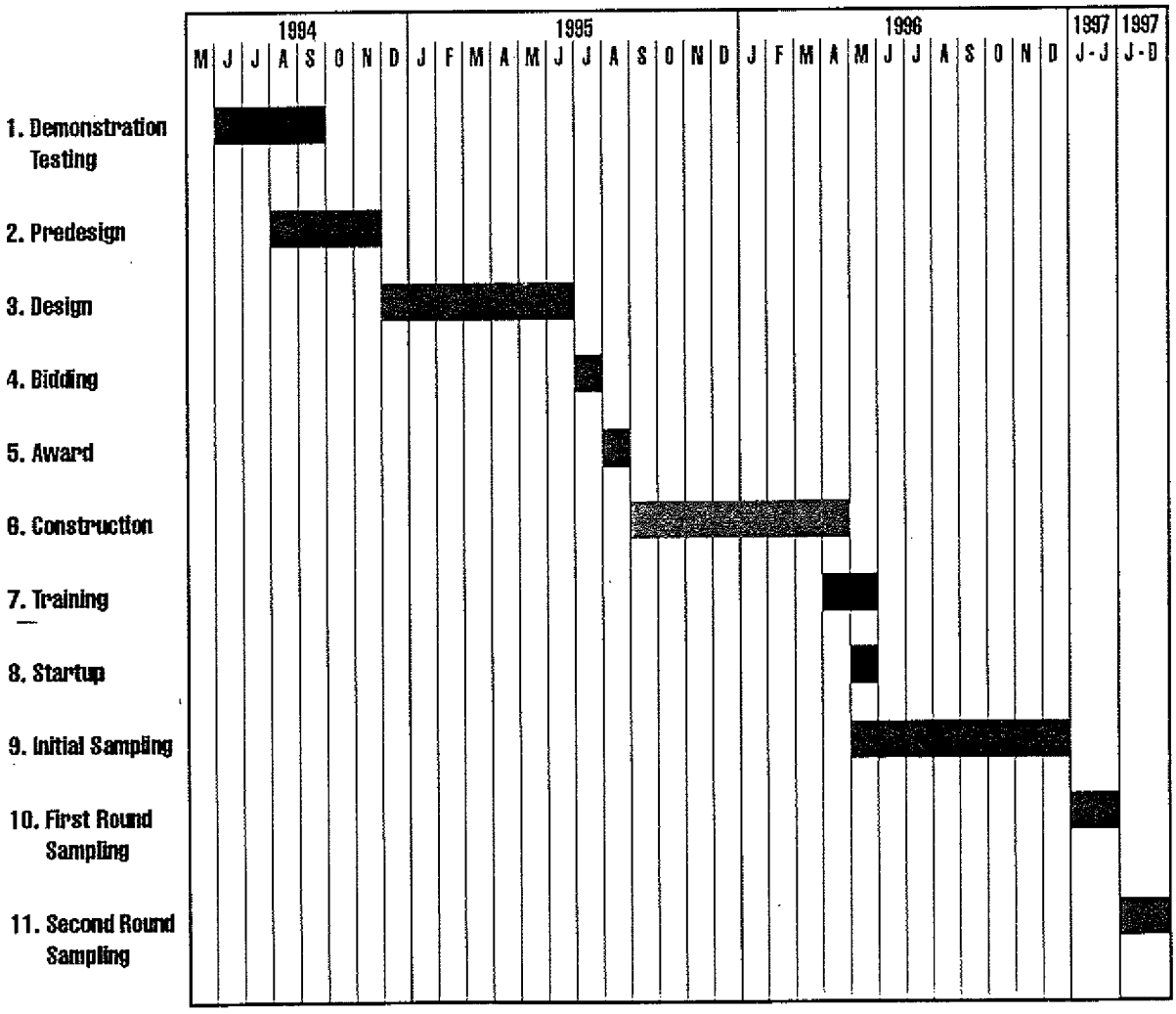
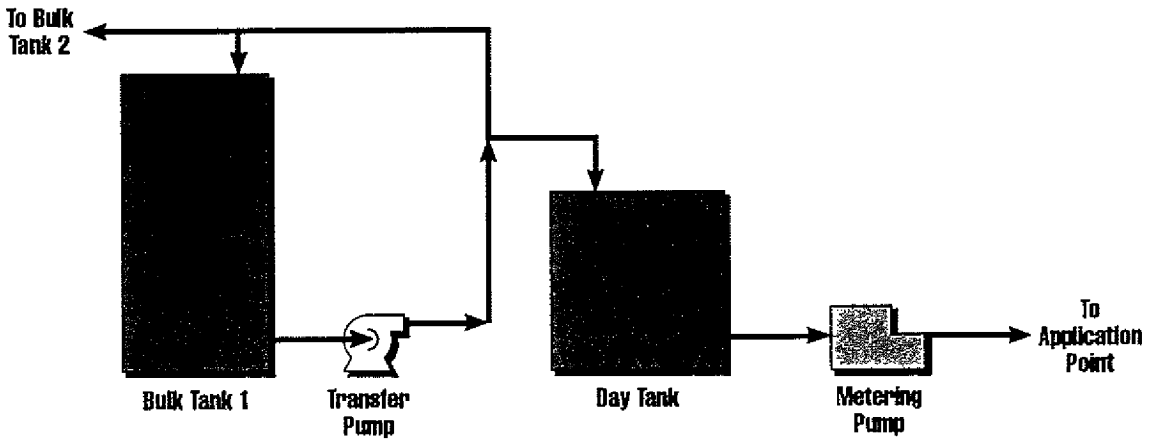


Table ES-1
Chemical Equipment Summary

	Southwest Water Plant	Water Works Park Water Plant	Northeast Water Plant	Springwells Water Plant	Lake Huron Water Plant
Number of bulk tanks	2	2	2	2	2
Bulk tank capacity, each (gal)	4,000	4,000	4,000	6,000	4,000
Number of day tanks	1	1	1	1	1
Day tank capacity (gal)	200	200	200	400	200
Number of feeders	3	3	3	3	3
Feeder capacity, each (gpd)	1 @ 200 2 @ 650	1 @ 300 2 @ 650	1 @ 250 2 @ 800	1 @ 600 2 @ 1,500	1 @ 350 2 @ 650
Number of transfer pumps	2	2	2	2	2
Transfer pump capacity each (gpm)	15	15	15	30	15

Figure ES-11
Liquid Chemical System Schematic



City of Flint Lead and Copper Rule Monitoring History						
Monitoring Period	90th Percentile (parts per billion)	Number of Samples above 15 ppb	Samples Required	Samples Collected	Required Frequency	
Jan. - June 2015	11 ppb	6	60	68		*Unofficial
July - Dec. 2014	6 ppb	2	100	100	6 months	
New Source and Treatment - Flint River and Flint WTP						
June - Sept. 2011	0 ppb	0	23	23	3 years	
June - Sept. 2008	0 ppb	0	33	33	3 years	
June - Sept. 2005	1.4 ppb	0	33	33	3 years	
June - Sept. 2002	4 ppb	1	33	33	3 years	
June - Sept. 2001	4.4 ppb	0	33	33	1 year	
June - Sept. 2000	7 ppb	2	33	33	1 year	
Jan. - June 1999	5 ppb	0	33	33	1 year	
July - Dec. 1998	7.4 ppb	1	33	33	6 months	
July - Dec. 1997	5 ppb	1	33	33	6 months	
Jan. - June 1997	4.5 ppb	1	33	33	6 months	
DWSD Study and OCC Treatment						
July -Dec. 1992	14.4 ppb	3	33	33	6 months	
Jan. - June 1992	15 ppb	4	33	33	6 months	

STATE OF MICHIGAN

JOHN ENGLER, GOVERNOR

DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., BLVD.
P.O. BOX 30195, LANSING, MICHIGAN 48909

Vernice Davis Anthony, Director

March 15, 1993

City of Flint
1101 South Saginaw Street
Flint, Michigan 48502

WSSN: 2310

Attention: Mr. Charles Smith, Utilities Superintendent

Subject: Lead/Copper Monitoring

Gentlemen:

We have reviewed the results of the second round of the lead and copper monitoring completed for your water supply for the period of July 1, 1992, through December 31, 1992. The samples were collected and analyzed to comply with the U.S. Environmental Protection Agency's Lead and Copper Regulation. The action levels specified in the regulation require that the 90th percentile results from the distribution system samples for lead and copper not exceed 15 and 1300 ug/l, respectively.

Since the 90th percentile lead level for your water system is 14.4 ug/l, the lead action level of 15 ug/l has not been exceeded. Also, the 90th percentile copper level was significantly below the copper action level of 1300 ug/l. This means that your water system has met both action levels for the first two monitoring periods.

Although many of the Detroit Water and Sewerage Department (DWSD) customers have met the action levels, DWSD is required to conduct a study to determine whether their water treatment processes can be improved to further reduce corrosion. The study is to be completed by July 1, 1994, and any recommended treatment modifications must be in place by January 1, 1997.

Further monitoring of your water system for lead and copper will not be required until the DWSD study is complete and any additional corrosion control treatment has begun. We will inform you when monitoring is again required. This may be as late as January 1997.

If you have any questions, please call me at (517) 335-8309.

Sincerely,

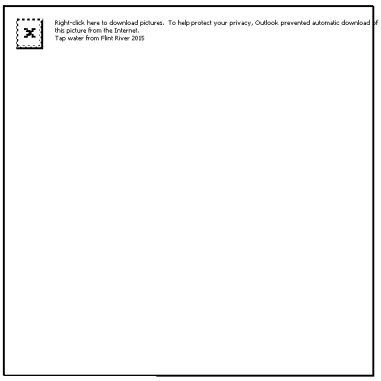
Timothy A. Benton, P.E.
District Engineer
Division of Water Supply
Bureau of Environmental and
Occupational Health

TAB:im
cc: John Weisenberger, Water Plant Supervisor
cc: Genesee County Health Department

From: Caleb Laieski <caleb_m_laieski@yahoo.com>
Sent: Tuesday, August 25, 2015 12:36 AM
To: mayor@cityofflint.com
Cc: McCarthy.Gina@epamail.epa.gov;r5hotline@epa.gov;hedman.susan@epa.gov;Hyde.Tinka@epa.gov;Wyant, Dan (DEQ);Creal, William (DEQ);NRC@uscg.mil
Subject: Water Emergency

Emergency Personnel and Honorable Officials:

I am extremely concerned after being sent the following photo and this issue needs to be investigated ASAP -



Flint tap water.

In 2014, Flint's emergency manager disconnected the city from the Detroit Water and Sewerage Department (DWSD) and started providing residents with water from the Flint River. Since that time, residents have been struggling to maintain access to a clean, safe drinking water supply.

Residents of Flint report having tap water with high levels of copper, lead, THMs (chemicals that result when chlorine mixes with organic matter), tin, lime and iron. The water is often brown or bluish-green in color and contains sediment. As a result, people are experiencing symptoms including hair loss, lead poisoning and diseases related to consuming high levels of copper (to name a few).

The Flint River clearly is not a safe, reliable source for the city's drinking water. It was as easy as pushing a button to disconnect from DWSD; it's time to push the button again, reconnecting Flint to DWSD and providing Flint residents with the clean, safe water they deserve.

Please reconnect Flint to the Detroit Water and Sewerage Department immediately and make water safe and clean for all.

Begin forwarded message:

Date: August 4, 2015 at 4:08:13 PM EDT
From: "Lynna Kaucheck, Food & Water Watch" <act@fwwatch.org>
Reply-To: "Lynna Kaucheck, Food & Water Watch" <act@fwwatch.org>
To: Caleb Laieski <caleb_m_laieski@yahoo.com>
Subject: Dangerously toxic drinking water

food & water watch

Residents of Flint, Michigan Have Dangerously Toxic Drinking Water

Sign the Petition: Demand Clean, Safe Drinking Water for Flint!

Dear Caleb,

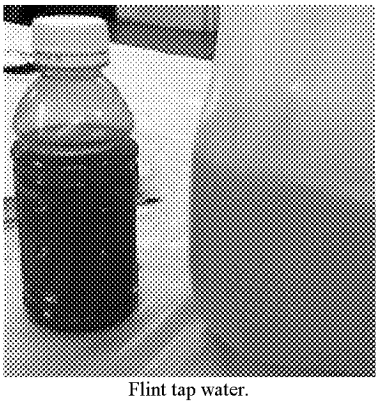
It's hard to believe that in 2015, residents of an American town are being poisoned by their public water system.

About a year ago, Flint, Michigan residents were switched from getting water from the Detroit Water and Sewerage Department to getting water from the Flint River, all in an attempt to cut costs. **But this change has cost the people of Flint greatly.**

Sign the petition to tell the Flint City Council and Mayor to switch Flint back to Detroit's clean drinking water — it's as easy as pushing a button!

Flint residents like Melissa Mays are trying to get their story out nationally to bring more attention to their fight.
In April 2014, a button was pushed that changed my life and thousands of others in Flint, Michigan. For over a year now, we have been drinking toxic water and suffering the severe health challenges that have come as a result.

Would you drink water with dangerous levels of lead and copper?



Flint tap water.

No One Should Have to Drink Toxic Water!

Since Flint started providing us with water from the Flint River, my water has turned bluish-green from all the copper in the water, the levels of lead have quadrupled and we have been notified about high levels of TTHMs (chemicals that are formed when chlorine mixes with organic matter). And the pH of my water is 4, which means that it's as acidic as tomato juice!

Other neighbors have experienced brown water and have found traces of tin, lime and iron in their water. Members of my community have been reporting cases of lead poisoning, and many neighbors have reported that their hair is falling out because of our toxic water. Due to the high levels of copper in my water, I am suffering from osteoarthritis and bone spurs at the age of 36.

Access to safe drinking water is a human right. Demand that Mayor Walling and Flint City Council give the people of Flint clean, safe water!

Like other Michigan cities, Flint is struggling financially. In 2014, Flint's emergency manager decided that, as a cost-saving measure, the city would stop buying clean, safe water from Detroit and start providing residents with water from the Flint River.

But the Flint River experiment has not panned out. The city has failed to adequately treat the water from the Flint River to make it safe to drink. Almost immediately after the switch, residents noticed changes in smell, color and taste of the water coming out of their taps, and tests showed high levels of

bacteria that forced the city to issue boil advisories.

To kill the bacteria, the city increased the amount of chlorine in the water, which resulted in the high levels of toxic trihalomethanes (TTHMs that Melissa mentions). Samples show levels of lead contamination in the water that's off the charts (likely due to Flint's inability to prevent lead from the old pipes from leaching into the water). A well-known neurotoxin, lead poisoning can have severe long-term impacts on children's developing brains.[1]

It is abundantly clear that the Flint River is not a safe, reliable source for the city's drinking water. Sign the petition to tell Flint Mayor Walling and the Flint City Council to switch back to Detroit Water to ensure clean, safe drinking water for Flint.

It was as easy as pushing a button to disconnect from Detroit's water service, it's time to push the button again to reconnect Flint to Detroit Water and provide Flint residents with the clean, safe water they deserve.

I am collecting petitions from people all over the country to deliver in person to the Flint City Council and Mayor at the end of August. I hope you'll help bring national attention to this issue by signing the petition to the Flint Mayor and City Council to give residents access to safe drinking water.

Thank you for taking action,

Lynna Kaucheck
Senior Organizer
Food & Water Watch
act(at)fwwatch(dot)org

---

1. Aging Pipes Are Poisoning America's Tap Water, *The Atlantic*, July 29, 2015.

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WASHINGTON, DC 20036 • TEL: (202) 683-2500

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This Document is a Non-Responsive Attachment.

This Document is a Non-Responsive Attachment.



From: Wurfel, Brad (DEQ)
Sent: Thursday, September 03, 2015 11:07 AM
To: Wurfel, Sara (GOV);Murray, David (GOV);Brown, Jessica (GOV);Muchmore, Dennis (GOV);Hollins, Harvey (GOV)
Cc: Wyant, Dan (DEQ);Busch, Stephen (DEQ);Shekter Smith, Liane (DEQ);Pallone, Maggie (DEQ);Tommasulo, Karen (DEQ)
Subject: Latest on Flint water

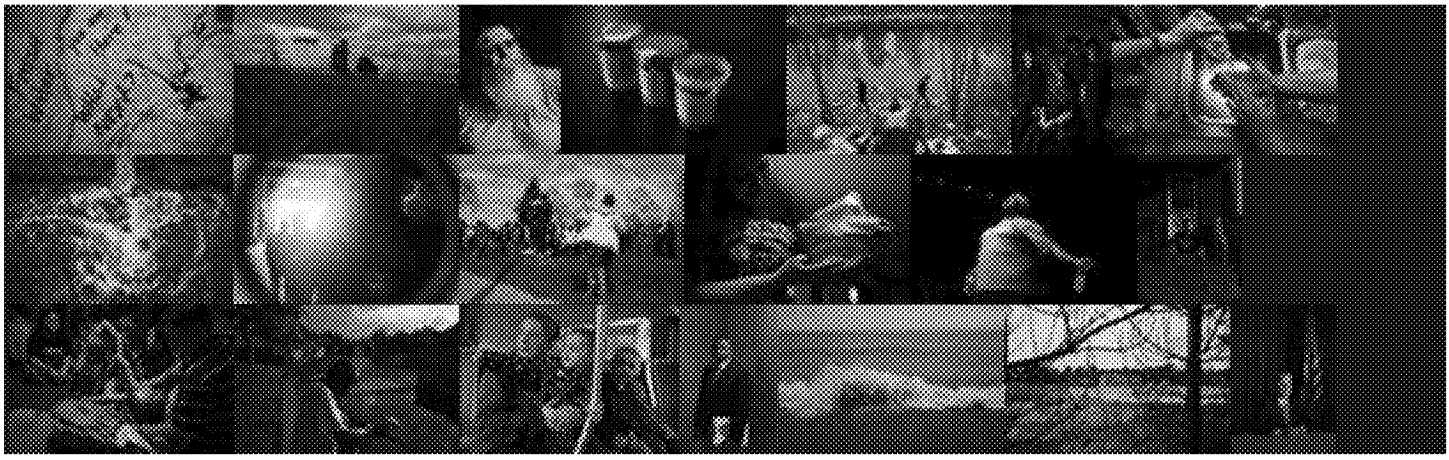
Here's what Fonger published yesterday.

While the reporter declined to use the full page statement I sent him, he apparently read it to the Virginia tech researcher, who didn't like my statement to the Journal and has sent a FOIA to the department for any and all communications.

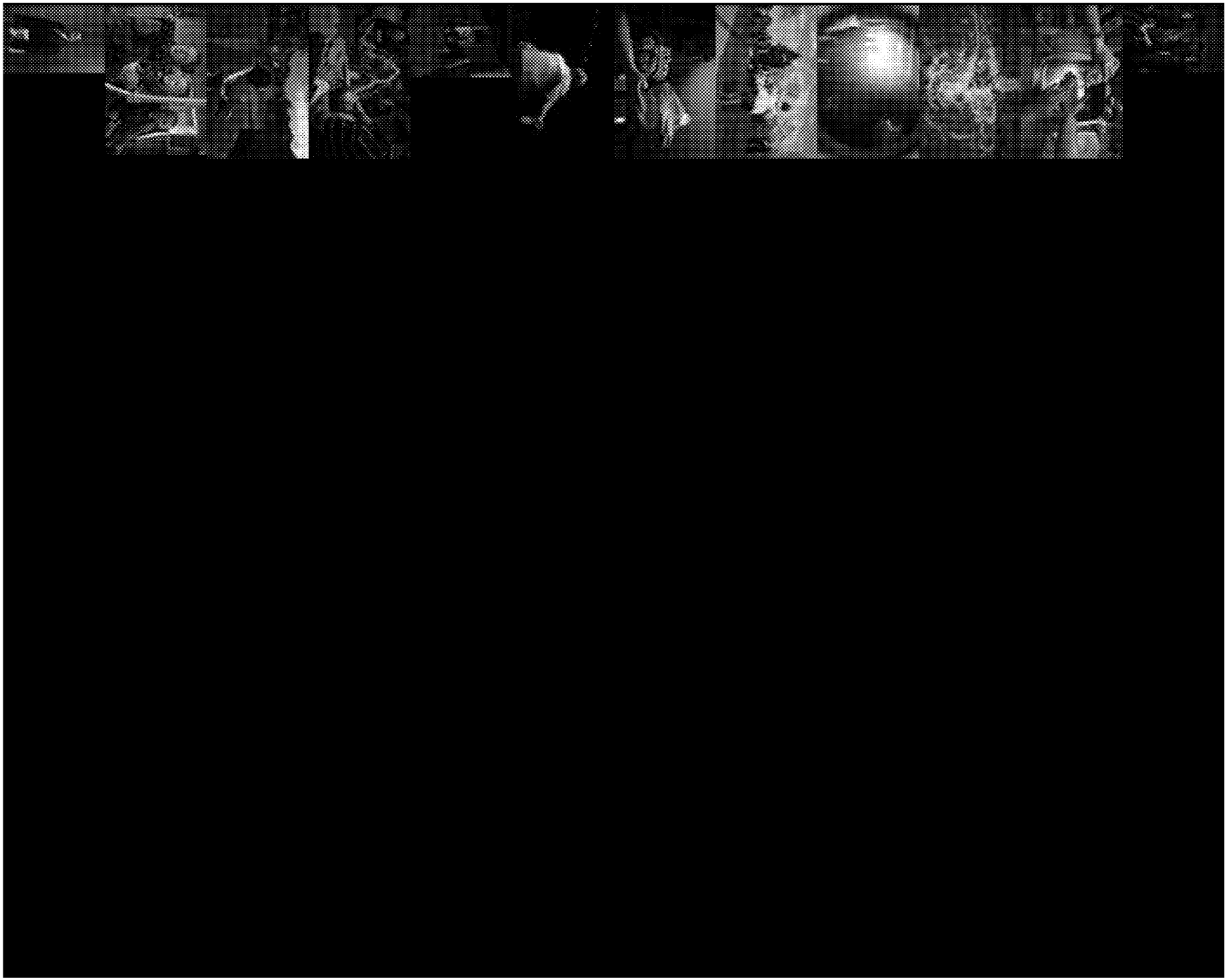
http://www.mlive.com/news/flint/index.ssf/2015/09/new_testing_shows_flint_water.html#incart_m-rpt-2

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
517-230-8006 cell

Lead leaches into 'very corrosive' Flint drinking water, researchers say



Fresh Water
You are Here!
Who's Next?
Flint





Georgia settles 20,000 signatures to end use of Flint River for water

A map previously used during protests against Flint's water quality hangs in the home of area resident Tony Palladeno Jr., 53, on Monday, May 18, 2015 in Flint. Palladeno has been regularly active at protests as well as City Council meetings. Brittany Greeson | MLive.com

Jake May | jmay2@mlive.com

Print Email



By Ron Fonger | rfonger1@mlive.com The Flint Journal

on September 02, 2015 at 5:41 PM, updated September 03, 2015 at 9:01 AM

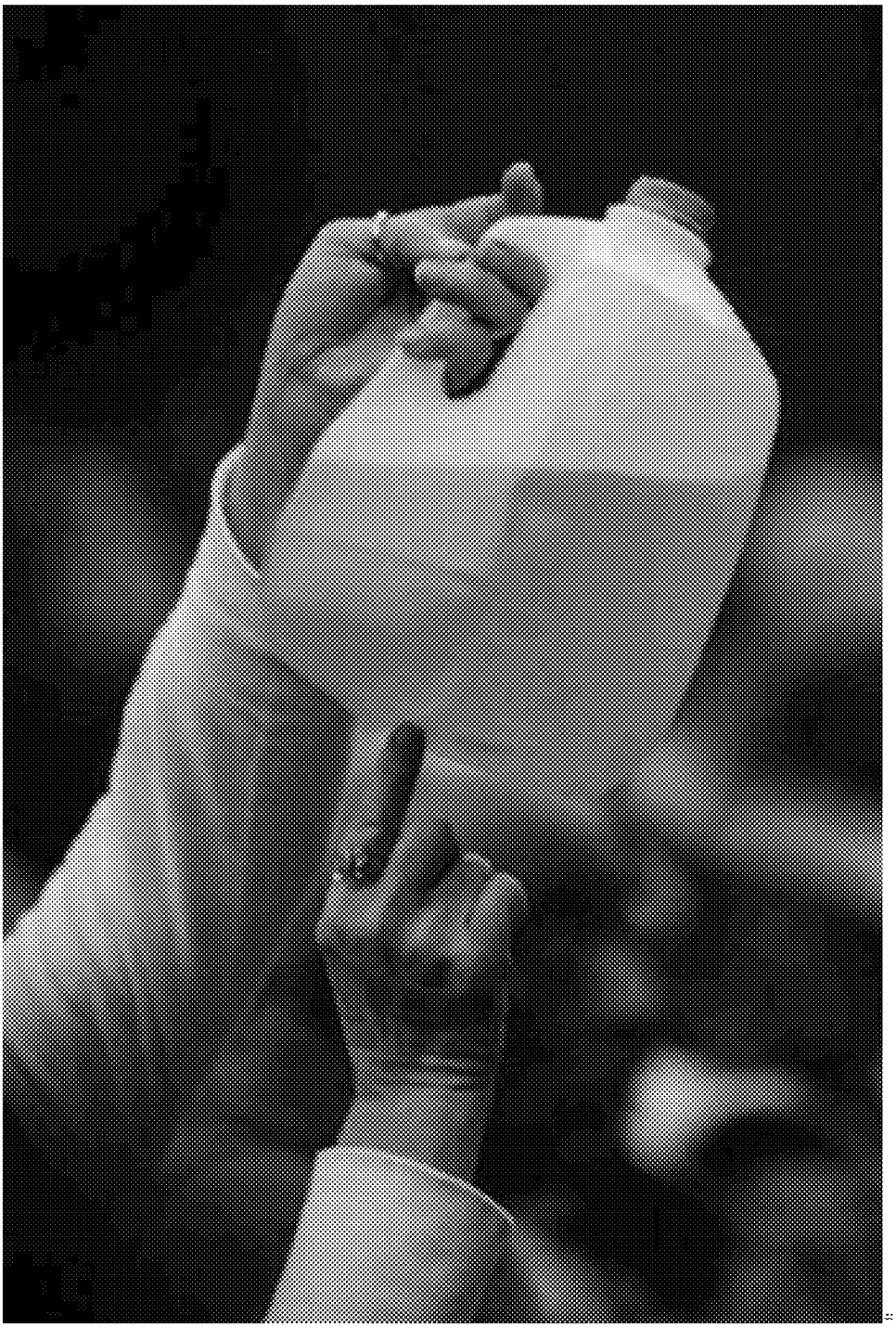
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FLINT WATER

All Stories



FLINT, MI -- Flint drinking water is "very corrosive" and "causing lead contamination in homes," researchers from Virginia Tech University reported online Wednesday, Sept. 2.

"On a scientific basis, Flint River water leaches more lead from plumbing than does Detroit water," the report concludes. "This is creating a public health threat in some Flint homes that have lead pipe or lead solder."

The Virginia Tech report comes as students there, overseen by Professor Marc Edwards, are in the final days of testing water collected from 300 sample kits distributed to Flint residents.

On Monday, Aug. 31, the researchers reported 42 percent of 120 initial samples from Flint had lead levels that were more than 5 parts per billion, "which suggests a serious lead-in-water problem, according to our experience and criteria."

Virginia Tech was initially contacted by a Flint resident who had concerns about lead in Flint water. It has been working with citizen groups in Flint such as Water You Fighting For.

Twenty percent of the first samples also exceeded the U.S. Environmental Protection Agency lead action limit of 15 ppb, the report said.

The EPA requires water systems like Flint's to collect tap samples from sites that are more likely to have plumbing materials containing lead.

If more than 10 percent of samples exceed 15 ppb, then water systems are required to take action, including steps to optimize corrosion control treatment.

Lead is a toxic metal that was used for many years in products found in and around homes, according to EPA.

"Even at low levels, lead may cause a range of health effects, including behavioral problems and learning disabilities," EPA's website says. "Children 6 years old and under are most at risk because this is when the brain is developing."

The Virginia Tech report on Flint River water comes two days after representatives of three organizations delivered more than 26,000 online petition signatures to Mayor Dayne Walling, demanding the city end its use of the Flint River and reconnect the city to the Detroit water system.

The petition language says high lead levels are one reason the city should no longer use the river as a drinking water source.

Walling and Department of Public Works Director Howard Croft issued statements in response to questions about lead in Flint water Wednesday after Croft declined to discuss the issue in a news conference Tuesday.

Flint spokesman Jason Lorenz said the two would not comment further Wednesday.

"The city of Flint is currently in compliance with the safety mandates of the Michigan Department of Environmental Quality and continues to work with them to stay in compliance with all safety and quality standards," Croft's statement said. "We have also been in constant contact with Virginia Tech, sharing information as it becomes available."

Walling, who has supported Flint's continued use of the Flint River as a drinking water source, said, "Lead can be a concern in communities with older public and private infrastructure.

"The city of Flint has offered free and independent testing to residents since spring, and I encourage people to use this service if they have questions," Walling's statement said.

Edwards, a professor of civil and environmental engineering, said the elevated lead levels he has seen in Flint tap water are tied to a corrosive water source that contains about eight times more chloride than Detroit water does.

"Chloride is generally considered to be very corrosive to iron. For instance, chloride present in road salts applied in the winter causes iron in cars and bridges to rust," the Virginia Tech team's website says.

"This could be a huge public health problem. ... The Flint water just ate the pipe up," Edwards said of the testing he has overseen so far.

In the testing, researchers took copper pipe pieces joined with lead solder inside them, according to the report, which says lead solder is probably present in plumbing systems of many Flint homes built before 1986.

Lead solder-copper pipe test pieces were placed in containers filled with water from Detroit and Flint in the experiment, according to the report.

"If it were me, I would not be using (Flint River water) for cooking or drinking unless I had it tested for lead," said Edwards, who previously mounted a six-year campaign that succeeded in forcing the U.S. Centers for Disease Control and Prevention to admit it had misled the public about the risk of lead in the Washington, D.C., area's drinking water, according to The Washington Post.

"Bottled or filtered water (is what I would use for) children under 6 years old or if I was pregnant," he said.

Brad Wurfel, communications director for the state Department of Environmental Quality, said the preliminary water testing results from Virginia Tech don't jibe with two separate rounds of testing during the past year by the city.

That testing indicated "Flint drinking water meets state and federal safe drinking water standards," Wurfel said.

Wurfel said lead levels detected in testing are not the result of water containing lead when it leaves Flint's treatment plant. But he said the state "has requested Flint optimize its water treatment to further limit exposure to lead from plumbing in homes."

The concerns about lead are the latest challenge for the Flint water system since the city started using the Flint River to replace Lake Huron water sold by the city of Detroit in April 2014.

Since the switch, the city has been plagued by issues such as water main breaks and boil water advisories because of bacteria and has been in violation of the Safe Drinking Water Act because of high levels of total trihalomethanes (TTHM), a byproduct of chlorinating river water.

The Rev. Allen Overton, who hand-delivered petitions to Walling on Monday, asking that city officials reconnect the Flint water system to Detroit, said Wednesday that the Virginia Tech experiment is more evidence Flint is not using the best quality of water available.

"We have a major health issue here, (and) they are not being honest with the citizens of Flint," Overton said.

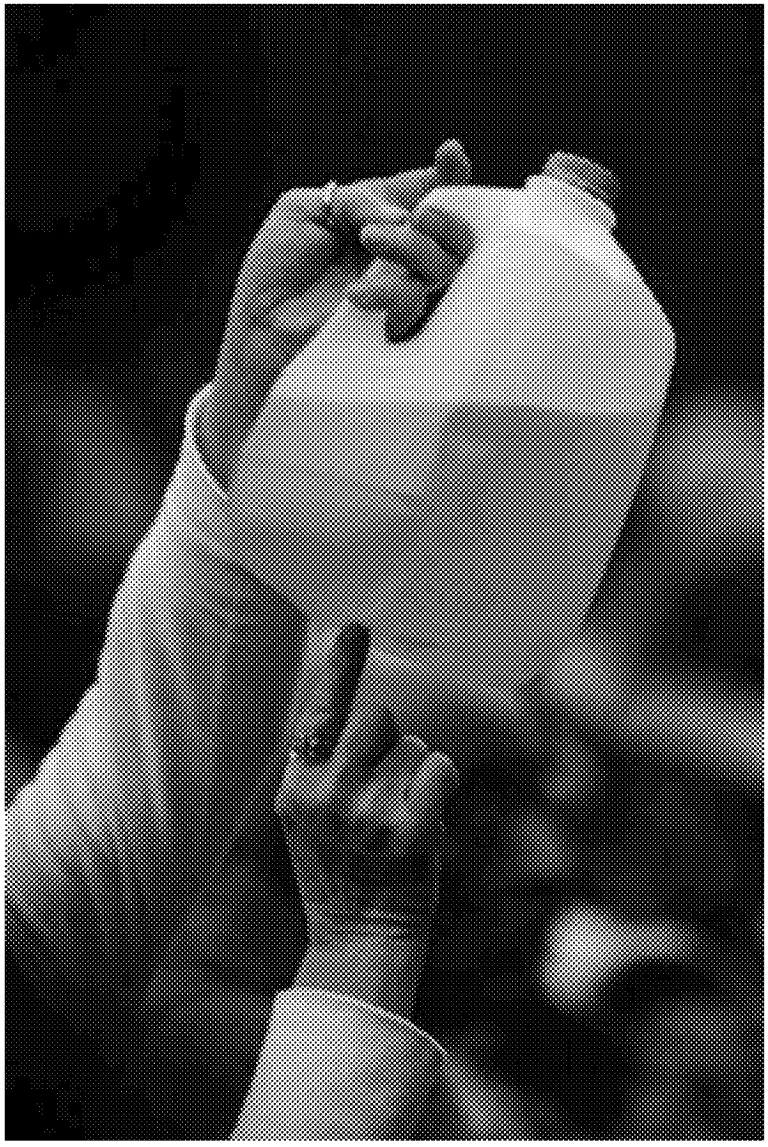
City Council President Josh Freeman said the city has been willing to provide customers with free water testing and has taken action — such as installing a new $1.6 million filtration system — to address problems such as TTHM.

Councilman Eric Mays said, as more water testing is done, it becomes clearer that Flint should be negotiating with Detroit for a new, short-term water contract as work continues on the Karegnondi Water Authority pipeline.

The pipeline, a partnership between the city and Genesee County, is expected to bring untreated Lake Huron water to Flint at some point in 2016.

"They are trying to make the water safe by trial and error," said Mays, who called Flint's water situation "a disgrace."

Fresh Water
You are Here !
Who's Next ?
Eat



From: Helen Taylor <htaylor@TNC.ORG>
Sent: Tuesday, September 08, 2015 3:47 AM
To: Wyant, Dan (DEQ)
Subject: RE: Water Strategy

Dan—
I remember Tim working on something a long time ago, forgot about it. Who requested that work from him at that time? We can discuss when in Flint, or before, just let me know, Helen

---

From: Wyant, Dan (DEQ) [mailto:WyantD@michigan.gov]
Sent: Thursday, September 03, 2015 2:04 PM
To: Helen Taylor
Subject: Fwd: Water Strategy

Let's discuss.

Sent from my iPhone

Begin forwarded message:

> **From:** "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
> **Date:** September 3, 2015 at 1:23:10 PM EDT
> **To:** "Wyant, Dan (DEQ)" <WyantD@michigan.gov>
> **Subject: FW: Water Strategy**
>
> Reminder to call Helen and Bill regarding this. Thanks.
>
> -----Original Message-----
> From: Anderson, Madhu (DEQ)
> Sent: Thursday, September 03, 2015 12:58 PM
> To: Thelen, Mary Beth (DEQ)
> Subject: FW: Water Strategy
>
> Mary Beth - Per my discussion with Dan, I have told Tim O'Brien that Helen Taylor and/or Bill Rustem will be reaching out to him. Could you remind Dan that he needs to let Helen and/or Bill that that needs to happen? Thanks,
>
> Madhu
>
> -----Original Message-----
> From: Tim O'brien [mailto:tobconsulting@aol.com]
> Sent: Wednesday, September 02, 2015 9:14 AM
> To: Anderson, Madhu (DEQ)
> Subject: Water Strategy

Good morning, Madhu. I sent the attached document to Dan Wyant after our meeting earlier this summer and have not heard anything. It may have either gotten overwhelmed in his "in box" or perhaps it is not something he wishes to pursue, although I had the impression in our meeting that he was interested. In any case, please let me know if you all wish to discuss further. I think it can be an important opportunity for the State and I
would enjoy working with you, Dan and the DEQ. Thanks.

Regards,

Tim O'Brien

From: Wurfel, Brad (DEQ)
Sent: Wednesday, September 09, 2015 10:09 PM
To: Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ);Prysby, Mike (DEQ)
Cc: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: Congressman Kildee Letter on Lead in Flint Water
Attachments: ATT00001.htm; ATT00002.htm; ATT00003.htm; ATT00004.htm; 2015-09-09-Congressman Kildee Letter on Lead in Flint Water.pdf; ATT00005.htm

Liane, need your team's help. We'll need a draft response, and possibly a briefing for the director tomorrow. I'll find you in the morning. Thanks!
b

Sent from my iPhone

Begin forwarded message:

> **From:** "Dickinson, Jordan" <Jordan.Dickinson@mail.house.gov>
> **Date:** September 9, 2015 at 6:54:47 PM EDT
> **To:** "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>
> **Subject: FW: Congressman Kildee Letter on Lead in Flint Water**
>
> Hi Brad,
>
> Can you please make sure the attached letter is passed along to Director Wyant? I will forward along a physical copy in the mail.
>
> Thank you,
>
> **Jordan Dickinson**
> Legislative Assistant
> Congressman Dan Kildee (MI-05)
> 227 Cannon House Office Building
> Washington, D.C. 20515
> Phone: (202) 225-3611
> www.dankildee.house.gov

This Document is a Non-Responsive Attachment.

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

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SUBCOMMITTEE ON
HOUSING AND INSURANCE

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(202) 225-6393 (FAX)

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111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 236-8627
(810) 238-8658 (FAX)

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@REPDANKILDEE

Congress of the United States
House of Representatives
Washington, DC 20515

September 9, 2015

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?

- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?

- What, if any, of the recommendations has the EPA followed from the memorandum?

- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,

Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Feuerstein, Heather (DEQ)
Sent: Thursday, September 10, 2015 10:53 AM
To: Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);Sygo, Jim (DEQ);Shaler, Karen (DEQ);Pallone, Maggie (DEQ);Shekter Smith, Liane (DEQ);Devereaux, Tracy Jo (DEQ);Busch, Stephen (DEQ);Benzie, Richard (DEQ)
Subject: For discussion today
Attachments: 2015-09-09- Congressman Kildee Letter on Lead in Flint Water.pdf; 4239_001.pdf

For discussion.

Heather Feuerstein
Management Assistant to
Maggie Pallone, Deputy Director and
Brad Wurfel, Communications Director
Department of Environmental Quality
517.284.6715

DANIEL T. KILDEE
5TH DISTRICT, MICHIGAN

COMMITTEE ON
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WASHINGTON, DC 20515
(202) 225-3611
(202) 225-6393 (FAX)

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111 EAST COURT STREET #3B
FLINT, MI 48502
(810) 236-8627
(810) 238-8658 (FAX)

WWW.DANKILDEE.HOUSE.GOV
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@REPDANKILDEE

Congress of the United States
House of Representatives
Washington, DC 20515

September 9, 2015

Ms. Gina McCarthy
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Mr. Dan Wyant
Director
Michigan Department of Environmental Quality
P.O. Box 30473
Lansing, MI 48909

Administrator McCarthy and Director Wyant:

The attached June 24, 2015, memorandum between two Environmental Protection Agency (EPA) employees, Miguel A. Del Toral and Thomas Poy, published recently by the American Civil Liberties Union of Michigan, suggests that there are high lead levels in the city of Flint, Mich., water transmission lines. Furthermore, this document reflects that children consuming this water had levels of lead in their blood in excess of three times what they were prior to the city of Flint switching its source water from the Detroit Water and Sewage Department (DWSD) to the Flint River.

In addition, this memorandum makes recommendations to Mr. Poy, Chief of the Ground Water and Drinking Water Branch of EPA Region 5, to do three things. First, for the EPA to work with the Michigan Department of Environmental Quality (MDEQ) to provide technical assistance to the city of Flint to deal with water quality issues. Second, it suggests the EPA review the compliance status of the city of Flint in respect to its compliance with the Lead and Copper Rule (LCR). Third, the memorandum recommends that the EPA conduct a review of the city of Flint testing procedures to ensure they are compliant with the LCR.

Regarding this memorandum and the surrounding water quality issues in the city of Flint, I have the following questions:

- Was this memorandum actually sent to Mr. Poy?

- Are the findings in the memorandum regarding the lead levels in the city of Flint water accurate?

- If there were in fact high levels of lead in the water in the city of Flint, when did the EPA and/or MDEQ plan to alert the public?

- What, if any, of the recommendations has the EPA followed from the memorandum?

- Given the demonstrated level of lead in the water in Flint, MI, is the water safe?

Regardless, I am very troubled by recent tests suggesting high levels of lead in the city of Flint's water system. As you know, on the EPA's website it says that lead above the "action level" in drinking water can cause a variety of adverse health effects, including delays in physical and mental development in babies and children.

According to the Safe Drinking Water Act, the EPA has the responsibility of enforcing water quality standards. EPA, however, has given the primary responsibility of enforcing water quality standards to the state of Michigan via MDEQ. As such, it is the responsibility of these agencies to ensure that the people of the city of Flint have safe drinking water.

Thank you and I look forward to hearing from you soon.

Sincerely,

Dan Kildee
MEMBER OF CONGRESS

cc:

State Senator Jim Ananich
State Representative Sheldon Neeley
State Representative Phil Phelps
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

WG-15J

June 24, 2015

MEMORANDUM

SUBJECT: High Lead Levels in Flint, Michigan – Interim Report

FROM: Miguel A. Del Toral
Regulations Manager, Ground Water and Drinking Water Branch

TO: Thomas Poy
Chief, Ground Water and Drinking Water Branch

The purpose of this interim report is to summarize the available information regarding activities conducted to date in response to high lead levels in drinking water reported by a resident in the City of Flint, Michigan. The final report will be submitted once additional analyses have been completed on pipe and water samples.

Following a change in the water source, the City of Flint has experienced a number of water quality issues resulting in violations of National Primary Drinking Water Regulations (NPDWR) including acute and non-acute Coliform Maximum Contaminant Level (MCL) violations and Total Trihalomethanes (TTHM) MCL violations as follows:

Acute Coliform MCL violation in August 2014
Monthly Coliform MCL violation in August 2014
Monthly Coliform MCL violation in September 2014
Average TTHM MCL violation in December 2014
Average TTHM MCL violation in June 2015

In addition, as of April 30, 2014, when the City of Flint switched from purchasing finished water from the City of Detroit to using the Flint River as their new water source, the City of Flint is no longer providing corrosion control treatment for lead and copper.

A major concern from a public health standpoint is the absence of corrosion control treatment in the City of Flint for mitigating lead and copper levels in the drinking water. Recent drinking water sample results indicate the presence of high lead results

in the drinking water, which is to be expected in a public water system that is not providing corrosion control treatment. The lack of any mitigating treatment for lead is of serious concern for residents that live in homes with lead service lines or partial lead service lines, which are common throughout the City of Flint.

In addition, following the switch to using the Flint River, the City of Flint began adding ferric chloride, a coagulant used to improve the removal of organic matter, as part of the strategy to reduce the TTHM levels. Studies have shown that an increase in the chloride-to-sulfate mass ratio in the water can adversely affect lead levels by increasing the galvanic corrosion of lead in the plumbing network.

Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water. When the City of Flint switched to the Flint River as their water source on April 30, 2014, the orthophosphate treatment for lead and copper control was not continued. In effect, the City of Flint stopped providing treatment used to mitigate lead and copper levels in the water. In accordance with the Lead and Copper Rule (LCR), all large systems (serving greater than 50,000 persons) are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase.

The lack of mitigating treatment is especially concerning as the high lead levels will likely not be reflected in the City of Flint's compliance samples due to the sampling procedures used by the City of Flint for collecting compliance samples. The instructions from the City of Flint to residents direct the residents to 'pre-flush' the taps prior to collecting the compliance samples. A copy of the instructions provided by the City of Flint to residents will be included in the final report.

The practice of pre-flushing before collecting compliance samples has been shown to result in the minimization of lead capture and significant underestimation of lead levels in the drinking water. Although this practice is not specifically prohibited by the LCR, it negates the intent of the rule to collect compliance samples under 'worst-case' conditions, which is necessary for statistical validity given the small number of samples collected for lead and copper under the LCR. This is a serious concern as the compliance sampling results which are reported by the City of Flint to residents could provide a false sense of security to the residents of Flint regarding lead levels in the water and may result in residents not taking necessary precautions to protect their families from lead in the drinking water. Our concern regarding the inclusion of 'pre-flushing' in sampling instructions used by public water systems in Michigan has been raised with the Michigan Department of Environmental Quality (MDEQ). The MDEQ has indicated that this practice is not prohibited by the LCR and continues to retain the 'pre-flushing' recommendation in their lead compliance sampling guidance to public water systems in Michigan. A copy of the MDEQ guidance will be included in the final report.

In the case of the Flint resident that contacted U.S. EPA (Ms. Lee-Anne Walters), the initial results from drinking water samples collected by the City of Flint in her home

for lead were 104 ug/L and 397 ug/L. The level of iron in the water also exceeded the capability of the measurement (>3.3 mg/L). The lead results were especially alarming given that the samples were collected using the sampling procedures described above, which minimize the capture of lead. When contacted by U.S. EPA Region 5, the MDEQ indicated that the lead was coming from the Walters' plumbing. Ms. Walters had previously indicated that all of the plumbing in the home was plastic.

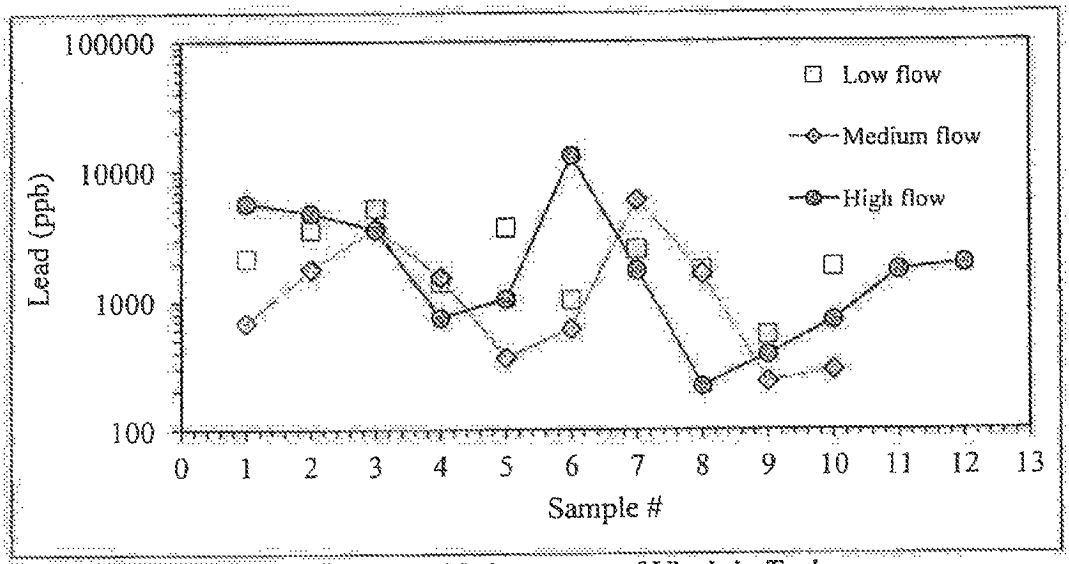
Following the confirmation of the initial high lead results, U.S. EPA Region 5 conducted two visits to the Walters' home on April 27, 2015 and May 6, 2015. Based on an inspection of the plumbing and subsequent sampling conducted at the Walters' residence, it was determined that except for a few minor metallic connectors, all interior plumbing, including the pipes, valves and connectors are made of plastic certified by the National Sanitation Foundation (NSF) for use in drinking water applications. Subsequent sampling showed that the faucets in the home appear to be compliant with the new lead-free requirements and are also not the source for the high lead levels. Our inspection of the interior plumbing and analysis of follow-up sampling results demonstrate that the home plumbing network is not the source of the high lead levels found at the Walters' residence. The photographs and all sampling results will be included in the final report.

Based on the U.S. EPA inspection and documentation of the plastic plumbing at the Walters' residence, it was suspected that the high lead was being introduced into the Walters' home plumbing from outside the home, likely from a lead service line. Three portions of the service line were extracted during a subsequent trip on May 6, 2015 and sent for analysis, when the Walters' service line was replaced. Analyses performed to date indicate that a portion of the service line is made of galvanized iron pipe. Inspection of the remaining portion from the water main to the external shut-off valve confirmed that the portion from the water main to the external shut-off valve is a lead service line.

Ms. Walters has also provided U.S. EPA with medical reports on her child's blood lead testing indicating that the child had a low blood lead level (2 ug/dL) prior to the source water switch and an elevated blood lead level following the switch (6.5 ug/dL). Redacted copies of these reports will also be included in the final report.

Subsequent to the discovery of high lead levels in the Walters' drinking water, the water to the Walters' home was shut off on April 3, 2015. The water was briefly turned back on to collect additional samples on April 28, 2015. Since the water had stagnated for an extended period of time, the kitchen tap was flushed for 25 minutes the night before collecting the samples. Three sets of samples were collected at different flow rates (10 at low flow, 10 at medium flow and 10 at high flow).

The drinking water samples collected from the Walters' residence on April 28, 2015 contained extremely high lead levels, ranging in value from 200 ug/L to 13,200 ug/L (see below).



Sample results and graph are provided courtesy of Virginia Tech

Additional sample results from resident-requested samples have also shown lead levels in excess of the lead action level. As with the samples collected by the City of Flint for compliance, the resident-requested samples are also being collected using the 'pre-flushing', so the lead levels captured in these samples likely do not represent the worst-case lead levels in the water and the actual lead levels at these homes may be much higher.

Pending completion of the final report, my interim recommendations are as follows:

1. The U.S. EPA should follow up with the MDEQ and the City of Flint on the recommendation made by U.S. EPA to MDEQ on June 10, 2015 to offer the City of Flint technical assistance on managing the different water quality issues in Flint, including lead in the drinking water. Although there have been two written assessments regarding water quality and operational issues in Flint at the time of this report, they do not address lead in drinking water. The first is an Operational Evaluation Report (OER) produced in November 2014 by Lockwood, Andrews and Newnam, Inc. to assess the factors contributing to high Total Trihalomethane (TTHM) levels in Flint following the source change. The focus of this report is to identify potential causes and remedial actions for lowering TTHM levels. The second report (Water Quality Report) produced by Veolia for the City of Flint on March 12, 2015, is an assessment of Flint's water quality and operations which provides advice to the City of Flint primarily focused on TTHM control and other operational issues. Both reports were written prior to the recent discovery of high lead results in Flint drinking water. As such, the reports do not take into account the potential effects on lead levels in drinking water.

As previously mentioned, the City of Flint currently has no mitigating treatment for lead and is also planning another source water change in the near future. U.S. EPA's Office of Research and Development in Cincinnati has extensive experience in corrosion and corrosion control treatment and distribution system issues and would be a valuable addition to the drinking water advisory group for the City of Flint. Copies of the qualifications and experience for Michael Schock and Darren Lytle have been forwarded to MDEQ.

2. U.S. EPA should review the compliance status of the City of Flint with respect to whether the system is in violation of the LCR requirement to install and maintain optimal corrosion control and whether the MDEQ is properly implementing the LCR provisions regarding optimal corrosion control treatment requirements for large systems. Pursuant to 40 CFR Section 141.82(i), the EPA Regional Administrator may review treatment determinations made by a State and issue federal treatment determinations consistent with the requirements of the LCR where the Regional Administrator finds: (1) A state has failed to issue a treatment determination by the applicable deadlines; (2) A State has abused its discretion in a substantial number of cases or in cases affecting a substantial population; or (3) The technical aspects of a State's determination would be indefensible in an expected Federal enforcement action taken against a system.

3. The U.S. EPA should review whether relevant resident-requested samples are being included by the City of Flint in calculating the 90th percentile compliance value for lead. Recent drinking water tests conducted at homes in Flint for lead that are not part of the compliance sampling pool have revealed high lead levels in the drinking water. The U.S. EPA memorandum signed on December 23, 2004 provides clarification on compliance determinations and states that customer-requested samples are to be included in the 90th percentile lead compliance calculation where the sampling is conducted during the monitoring period from sites and sampling procedures meeting the LCR criteria. Given the prevalence of lead service lines in the City of Flint, should these sample results be from homes with lead service lines, the sample results would be considered compliance samples under the LCR.

Also attached is a timeline of events for Flint, Michigan. Should you have any questions regarding the information or recommendations provided, please let me know.

cc: Liane Shekter-Smith (MDEQ)
Pat Cook (MDEQ)
Stephen Busch (MDEQ)
Michael Prysby (MDEQ)
Marc Edwards (Virginia Tech)
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD

From: Wurfel, Brad (DEQ)
Sent: Thursday, September 10, 2015 2:20 PM
To: Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ);Bush, Dennis (DEQ)
Cc: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: FW: things in flint
Attachments: Flint Water Letter to DEQ 09102015.pdf

Well, here's the request from Flint Journal for today.
Working on responses. Call me if you would like to discuss any of this.
b

From: Ronald Fonger [mailto:RFONGER1@mlive.com]
Sent: Thursday, September 10, 2015 2:17 PM
To: Wurfel, Brad (DEQ)
Subject: things in flint

Brad:
I'm wrapping up a story on the lead issue that includes a comment from Howard Croft, Flint's DPW director.
He said the city did not act sooner on an optimization plan because it was acting on advice from the DEQ.
He said the city was aware of the issue of corrosion control as it began to use the Flint River but followed the guidance of DEQ.
Do you want to comment on why Flint officials were given that advice – or did it not happen that way?
Croft did say one concern about adding phosphates, for example, was that it could make the problem with bacteria in the water worse.
Also, do you want to comment on this statement from Marc Edwards:
"We have provided that information (about lead in water), and MDEQ did not," Edwards said. "In the days ahead, we will be exposing just some of the irresponsible actions of MDEQ relative to the lead sampling in Flint -- these actions are not consistent with federal law."
Finally, after I finish that story, I am starting work on another, based on the letter that I've attached from Flint's state legislative delegation to the DEQ.
Do you want to comment on that?
I need a response on the first questions first as I expect that story to post this afternoon but I will update it with your response as soon as I get it.
Call me if it's easier.
Thanks,

Ron Fonger
MLive Media Group
Reporter

mobile PPI
email rfonger1@mlive.com
address 540 S. Saginaw St. #101, Flint MI 48502

STATE OF MICHIGAN

September 10, 2015

Michigan Department of Environmental Quality
Executive Division
DEQ Director: Dan Wyant
P.O. Box 30473
Lansing, MI 48909-7973

Director Wyant,

In light of recently released findings by the American Civil Liberties Union, independent researchers and a troubling interim U.S. Environmental Protection Agency memo from June, we are requesting additional answers about the safety and treatment of the City of Flint's water.

Several disturbing points have been raised and we have a number of urgent questions, including:

- **When did the MDEQ become aware of the June 24, 2015, interim EPA memo and whom was it shared with?**
  - Which Flint city officials also received this information?
  - Why was the memo not immediately shared with the public?
  - What response did MDEQ have to the EPA concerns raised in the memo?
  - Were any actions taken by the MDEQ as a result of the issues mentioned in the memo?
  - What steps, if any, were taken to determine the validity of the Virginia Tech study?

- **Please explain why the pre-flushing method of sampling was used in this instance.**
  - Is it the same method that is applied to all sampling or does the agency have the discretion to decide?
  - Who is responsible for making the decision to pre-flush?
  - The EPA memo references the Lead Copper Rule requirement that systems greater than 50,000 users maintain "corrosion control treatment." As the regulator, why did the MDEQ choose not to enforce that standard?
  - The EPA recommends allowing water to rest for at least six hours, but no more than 12 hours, before taking a sample. On MDEQ's Web site, it suggests flushing the line for five minutes before the six-hour rest. How did the department arrive at this method?

- According to a July 9, 2015, article on DeadlineDetroit.com, "Scary: Leaded Water and One Flint Family's Toxic Nightmare,"

> *"'The EPA offered Flint officials the use of agency experts to help get the situation under control," said Del Toral, but added that, to his knowledge, the city has so far declined all help.*
>
> *LeeAnne Walters said that when she asked why city officials weren't taking the EPA's offer of assistance, she was told, "We don't need it."*

STATE OF MICHIGAN

Flint spokesman Lorenz, on the other hand, maintained "the city continues to work closely with the MDEQ and the EPA Regional Office."

- Who refused the EPA's offer of expert assistance and why?

- **Is the damage done to the pipes (as described in the EPA report) accurate?**
  - If yes, will damaged pipes continue to leach lead or will properly treated water safely reach consumers?
  - What is the plan and timeline to address it?

- **And most importantly, what can be done immediately to ensure safe, affordable drinking water for the citizens of Flint?**

Many of the decisions that led to the current situation occurred while a state-appointed manager was in control and MDEQ personnel were consulted about testing methods and how to address the situation. In addition, MDEQ also encouraged the method of water testing used by Flint officials. We believe that there is a heightened obligation by the state to make this right.

Due to the serious public health threats of this situation, we respectfully request a response to these matters by Monday, September 14, 2015.

We will do our best to accommodate meeting requests, if necessary, but would appreciate written responses to the above questions so that we can make informed decisions swiftly to address these serious concerns.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

cc:
U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Thelen, Mary Beth (DEQ)
Sent: Friday, September 11, 2015 10:37 AM
To: Wyant, Dan (DEQ)
Subject: FW: Questions about Flint Water system

Importance: High

Do you want a call arranged today after your 2:00 call?
Thanks.

From: Jumana Vasi [mailto:JVasi@mott.org]
Sent: Friday, September 11, 2015 10:22 AM
To: Thelen, Mary Beth (DEQ)
Subject: Questions about Flint Water system

Hi Mary Beth –

I don't have Director Wyant's direct email address, so I'm hoping it is okay for me to send this message through you. Please advise if there is a better way to communicate with the Director.

As you can imagine, we are very concerned about the drinking water issues at Mott, per the article below. I anticipate that questions will arise for the Director regarding this issue when he joins us next week. I'd like the chance to talk with him about this in advance of our meeting. I am available all day today and can make myself available on Monday or Tuesday. Would it be possible for him to give me a call at his convenience? My cell phone number is 773.655.9412, which would be the best way to reach me. It is fine with me if he calls early or late in the day.

Thank you so much,
Jumana

Kildee, state lawmakers want more info from regulators about Flint water

 By Ron Fonger | rfonger1@mlive.com The Flint Journal
on September 11, 2015 at 8:43 AM
RedditEmail
Dan Kildee

FLINT, MI -- Federal and state elected officials representing the city want regulators to provide more information the safety of drinking water here.

U.S. Rep. Dan Kildee, D-Flint; state Sen. Jim Ananich, D-Flint; and state Reps. Sheldon Neeley and Phil Phelps want assurances about water quality and methods of testing in light of recent concerns about lead levels here.

Kildee wrote to Gina McCarthy, administrator of the U.S. Environmental Protection Agency, and Dan Wyant, director of the state Department of Environmental Quality, saying he is "very troubled" by recent tests suggesting high levels of lead in the city of Flint's water system.

Virginia Tech University students and faculty have posted the results of 252 water tests from Flint online, concluding the city has "a very serious lead in water problem."

The Virginia Tech testing so far has shown 16.7 percent of samples from the city registered more than 15 ppb of lead -- the federal threshold for lead in water.

State and city officials have said their tests since April 2014 show Flint meets the federal standard for lead and other contaminants in drinking water, but both the state and DEQ have recommended the city move quickly to develop a plan for making the water supply less corrosive to lead and lead solder in service lines and home plumbing.

The city began using the Flint River as its source of drinking water in April 2014 after the city of Detroit terminated its contract to continue selling water to the city.

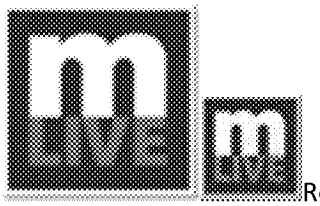
The termination came after the city announced its intent to become a partner in the Karegnondi Water Authority, which is building a new water pipeline to Lake Huron to service Flint and Genesee County.
Virginia Tech professor Marc Edwards, who is heading the study of Flint water, has said the city's issues with lead are exacerbated because treated river water is much more corrosive than treated Lake Huron water that was purchased from Detroit for more than 50 years.

Ananich, Neeley and Phelps also wrote to Wyant, raising questions about lead levels in Flint water and the city's water sampling methods.

"Many of the decisions that led to the current situation occurred while a state-appointed manager was in control and MDEQ personnel were consulted about testing methods and how to address the situation," the letter says.

DEQ Communications Director Brad Wurfel said in an email to The Flint Journal-MLive that the agency appreciates "that the state representatives have concerns about what they are seeing in various forums on this issue."

"Obviously the department looks forward to briefing local legislative leaders and answering all of their questions," the statement says.


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http://www.mlive.com/news/flint/index.ssf/2015/09/kildee_other_elected_officials.html#incart_river

From: Thelen, Mary Beth (DEQ)
Sent: Friday, September 11, 2015 7:14 PM
To: Wyant, Dan (DEQ)
Subject: FW: Questions for Director Wyant

I will also print for you – see below.

From: Jumana Vasi [mailto:JVasi@mott.org]
Sent: Friday, September 11, 2015 5:29 PM
To: Thelen, Mary Beth (DEQ)
Subject: Questions for Director Wyant

Hi Mary Beth –

Thank you for arranging my call with the Director. He's asked me to send my follow-up questions in writing, so here they are below. Could you please forward them to him?
Thank you,
Jumana

Dan –

Thank you so very much for your time this afternoon. Here are the questions we've got concerning Flint drinking water.

- The Lead and Copper Rule requires water systems to obtain prior approval from the State to add a new source of water or make any long-term change in water treatment process prior to implementation. Did the DEQ have any concerns related to the switch from Detroit water to Flint River water in terms of potential increases in corrosion?
- The corrosivity of Flint's drinking water seems to be the main contributor to lead levels from residential faucets*. Does the state offer recommendations (treatment options, consumer use guidelines, etc.) for dealing with water that is considered to be "highly corrosive"?
- Are other Michigan cities using similarly corrosive water? What steps are they taking to protect residents from lead leaching from their home plumbing systems?
- Is Flint conducting compliance monitoring under the Lead and Copper Rule? If so, why have their test results differed from the Virginia Tech findings?
- What could the city be doing to better educate and protect its residents?

Thank you for all of your help. We are really looking forward to having you here next week.

Jumana

*http://flintwaterstudy.org/2015/08/why-is-it-possible-that-flint-river-water-cannot-be-treated-to-meet-federal-standards/

Jumana Vasi
Program Officer, Environment Program
C.S. Mott Foundation
503 S. Saginaw Street
Flint, MI 48503

(810) 766-1714

From: Wurfel, Brad (DEQ)
Sent: Tuesday, September 15, 2015 3:54 PM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: FW: PRESS RELEASE: Coalition for Clean Water Lawsuit Dismissed by Circuit Court
Attachments: Coalition for Clean Water Lawsuit Dismissed 9.14.15.pdf

From: Jason Lorenz [mailto:jlorenz@cityofflint.com]
Sent: Tuesday, September 15, 2015 9:37 AM
Subject: PRESS RELEASE: Coalition for Clean Water Lawsuit Dismissed by Circuit Court

For Immediate Release

Lawsuit against City of Flint brought by Coalition for Clean Water Dismissed by Circuit Court

Flint, Michigan – September 15, 2015 – The lawsuit brought against the City of Flint by the Coalition for Clean Water has been dismissed by Circuit Court Judge Archie Hayman. In his September 14 ruling, Judge Hayman determined that the plaintiff did not state a valid cause of action against the City of Flint, the Mayor and the City Administrator. Judge Hayman also determined that he did not have jurisdiction to provide the relief sought by the plaintiff. All counts of the Coalition's amended complaint were therefore dismissed.

The City of Flint has maintained communication with both the Michigan Department of Environmental Quality and the United States Environmental Protection Agency to ensure all proper safety and quality standards have been followed. The MDEQ recently notified Flint that it is no longer in violation of the Safe Water Drinking Act due to total trihalomethanes (TTHM) following four consecutive quarters of testing showing levels below the federal action level. The City of Flint will continue to work to ensure safe, quality and affordable drinking water to its residents, businesses and visitors.

The City of Flint will continue to provide updates on its water progress through its website, cityofflint.com. Anyone with water issues is encouraged to call 810-766-7202 so that they can be addressed. Residents wishing to receive a free and independent in-home water test can call 810-787-6537 or email flintwater@cityofflint.com.

–END–

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039 (Office)
PPI (Cell)
jlorenz@cityofflint.com



Dayne Walling
Mayor

Natasha L. Henderson
City Administrator

Jason Lorenz
Public Information Officer
(810) 237-2039
jlorenz@cityofflint.com

For Immediate Release

Lawsuit against City of Flint brought by Coalition for Clean Water Dismissed by Circuit Court

Flint, Michigan – September 15, 2015 – The lawsuit brought against the City of Flint by the Coalition for Clean Water has been dismissed by Circuit Court Judge Archie Hayman. In his September 14 ruling, Judge Hayman determined that the plaintiff did not state a valid cause of action against the City of Flint, the Mayor and the City Administrator. Judge Hayman also determined that he did not have jurisdiction to provide the relief sought by the plaintiff. All counts of the Coalition's amended complaint were therefore dismissed.

The City of Flint has maintained communication with both the Michigan Department of Environmental Quality and the United States Environmental Protection Agency to ensure all proper safety and quality standards have been followed. The MDEQ recently notified Flint that it is no longer in violation of the Safe Water Drinking Act due to total trihalomethanes (TTHM) following four consecutive quarters of testing showing levels below the federal action level. The City of Flint will continue to work to ensure safe, quality and affordable drinking water to its residents, businesses and visitors.

The City of Flint will continue to provide updates on its water progress through its website, cityofflint.com. Anyone with water issues is encouraged to call 810-766-7202 so that they can be addressed. Residents wishing to receive a free and independent in-home water test can call 810-787-6537 or email flintwater@cityofflint.com.

–END–

Subject:	Flint Water Conf Call
Start:	Fri 9/18/2015 7:00 AM
End:	Fri 9/18/2015 8:00 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Clayton, Stacie (GOV)
Required Attendees:	Hollins, Harvey (GOV); Muchmore, Dennis (GOV); Posthumus, Dick (GOV); Brown, Eric (GOV); Lyon, Nick (DCH); Wyant, Dan (DEQ); Khouri, Nick (TREASURY); Wisniewski, Wendy (GOV); Rospond, Laurie (GOV); Grijalva, Nancy (DCH); Thelen, Mary Beth (DEQ); Doyle, Maureen (Treasury); Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Optional Attendees:	Mcbride, Bill (GOV)

Call In: **PPI**
Access: **PPI**
Harvey will host

Agenda

DEQ update on Flint water and elected officials briefing
Dennis Muchmore update
Harvey Hollins update
Treasury update
DHHS update
Action steps going forward (DEQ)

Participants

Dennis Muchmore
Dick Posthumus
Harvey Hollins
Eric Brown
Bill McBride
Nick Lyon
Dan Wyant
Nick Khouri

From: Pallone, Maggie (DEQ)
Sent: Thursday, September 17, 2015 3:55 PM
To: Wyant, Dan (DEQ)
Subject: FW: Flint - Hydrant Flushing Photo

From: Busch, Stephen (DEQ)
Sent: Thursday, September 17, 2015 3:50 PM
To: Wurfel, Brad (DEQ) <WurfelB@michigan.gov>; Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Subject: FW: Flint - Hydrant Flushing Photo

FYI. From Treasury.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, September 17, 2015 3:40 PM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: Fw: Flint - Hydrant Flushing Photo

Steve-
I just spoke with Randy with treasury. He has some questions regarding flint, and I suggested he call you. Heads up.

From: Byrne, Randall (Treasury)
Sent: Thursday, September 17, 2015 11:40:16 AM
To: Shekter Smith, Liane (DEQ)
Subject: FW: Flint - Hydrant Flushing Photo

Liane:

I tried calling you yesterday and I understand that you plan to return to the office tomorrow. Please call me to discuss this photo taken in Flint.

Thanks,
Randy

From: Widigan, Robert (TREASURY)
Sent: Thursday, September 17, 2015 11:27 AM
To: Workman, Wayne (TREASURY) <WorkmanW@michigan.gov>; Koryzno, Edward (Treasury)

<KoryznoE@michigan.gov>; Byrne, Randall (Treasury) <ByrneR1@michigan.gov>; Cline, Richard (Treasury) <cliner1@michigan.gov>; Dempkowski, Angela (Treasury) <DempkowskiA@michigan.gov>
Subject: Flint - Hydrant Flushing Photo

All,

This photo was taken in the city of Flint, on Corunna Rd east of Ballenger Hwy.

This is allegedly after five **hours** of flushing. Just by looking at the amount of water in the grass and on the road, it has definitely been open for a while.



Robert Widigan

Local Government Financial Services Division
Michigan Department of Treasury

Sent from my iPhone

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, September 24, 2015 2:22 PM
To: Wyant, Dan (DEQ)
Subject: FW: Requested MDEQ Drinking Water Information
Attachments: Flint lead-copper history.pdf; 2310FlintCertOpReport2015-09-23.pdf; CWS-LeadServiceLines-List-partial.pdf

FYI.

From: Busch, Stephen (DEQ)
Sent: Thursday, September 24, 2015 2:20 PM
To: sheldonneeley@house.mi.gov
Cc: latanyagarrett@house.mi.gov; Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ); Thelen, Mary Beth (DEQ); Feuerstein, Heather (DEQ)
Subject: Requested MDEQ Drinking Water Information

Dear Representative Neeley:

I am writing in response to our meeting at your office on September 22, 2015, discussing the recent concerns by you and your constituents regarding lead levels in their tap water. Your interest in this matter is appreciated. During the meeting you requested additional information which we are providing to you as follows and attached.

1. A summary of all lead and copper compliance samples for the City of Flint is attached (Flint lead-copper history.pdf). This compilation was just completed by DEQ staff based on our records. For easier reading we have color coded the lead sample results. Those in green are 15 parts per billion or less. Those in red are over 15 parts per billion. While the City has indicated difficulty in obtaining and keeping customer participants, you will note as we explained during our meeting that lead results vary both higher and lower for addresses where monitoring has been conducted multiple times. Please note that due to the large volume of data, this document has been formatted to print on 11x17 paper.

2. A list of certified operators for the City of Flint is attached (2310FlintCertOpReport2015-09-23.pdf). This information comes from our operator certification and training database. All operators listed with an "F" certification meet the Administrative Rule requirement for the City of Flint Water Treatment Plant that "A shift operator shall be on site and in charge of each operating shift at a community supply in the F classification when the operator in charge is not on site."

3. A list (partial) of communities in Michigan, mostly from Southeast Michigan, that have reported having at least some lead service lines as part of their historical lead and copper compliance monitoring is attached (CWS-LeadServiceLines-List-partial.pdf). Again, please note that this is a partial list of community water systems statewide, based on the records we have been able to review to date. As noted during our meeting, a complete list, if still desired will take longer to compile.

We hope that this information will meet your needs. If you should have additional questions, please contact me at the number below.

Sincerely,

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

City of Flint Lead and Copper History				90th percentile = 0.015			90th percentile = 0.0144				90th percentile = 0.0045				90th percentile = 0.005				90th percentile = 0.0074				90th percentile = 0.005				90th percentile = 0.007				90th percentile = 0.0044				90th percentile = 0.004				90th percentile = 0.0014				90th percentile = 0.000				90th percentile = 0.000				90th percentile = 0.006			90th percentile = 0.011	
All results in parts per million, mg/L				33 Required, 33 Taken			33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				33 Required, 33 Taken				23 Required, 23 Taken			100 Required, 100 Taken			60 Required, 69 Taken	
L=Lead, C=Copper, G=Galvanized, P=Plastic				1/1 - 6/30/1992			7/1 - 12/31/1992				1/1 - 6/30/1997				7/1 - 12/31/1997				7/1 - 12/31/1998				1/1 - 6/30/1999				6/1 - 9/30/2000				6/1 - 9/30/2001				6/1 - 9/30/2002				6/1 - 9/30/2005				6/1 - 9/30/2008				6/1 - 9/30/2011				7/1 - 12/31/2014			1/1 - 06/30/2015	
Sample Location	Sample Categor	Service Line	Building Plumbing	Site Code	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Site Code	Same Data?	Pb	Cu	Same Data?	Pb	Cu
912 Lafayette	1	L	C	A1	0.011	0.204	B1	Y	0.013	0.288																																																			
2130 Flushing	1	L	C	A2	0.003	0.023	B2	Y	0.003	0.023																																																N (C,P)	0.006	0.05
1614 Woodlawn Pk	1	L	C	A3	0.004	0.145	B3	Y	0.007	0.061	C3	Y	0.003	0.05	D3	Y	0.032	0.018	E3	Y	0.029	0.060	F3	Y	<0.002	0.030	G3	Y	0.004	0.036	H3	Y	<0.003	<0.020																										
919 Blanchard	1	L	G	A4	0.008	0.036	B4	Y	0.009	0.045	C4	Y	<0.002	0.19	D4	Y	<0.002	0.146	E4	Y	0.004	<0.01	F4	Y	<0.002	0.130	G4	Y	0.005	0.013	H4	Y	<0.003	0.04																										
2322 Calumet	1	L	C	A5	0.004	0.085	B5	Y	0.022	0.053	C5	Y	<0.002	0.04	D5	Y	<0.002	0.025	E5	Y	<0.002	0.010	F5	Y	<0.002	0.010	G5	Y	0.003	0.015	H5	Y	<0.003	<0.020																										
2501 Bagley	1	L	G	A6	0.007	0.055	B6	Y	0.007	0.043																																																J6	Y	<0.002	0.02
3704 Circle	1	L	C	A7	0.005	0.220	B7	Y	0.005	0.134																																																		
2110 N. Stevenson	1	L	G	A8	0.009	0.043	B8	Y	0.015	0.037	C8	Y	0.002	0.03	D8	Y	0.003	0.022	E8	Y	0.008	0.020	F8	Y	0.004	0.040																																				
2201 Brownell	1	L	G	A9	0.008	0.162	B9	Y	0.009	0.089																																																		
2601 Mackin	1	L	G	A10	0.004	0.086	B10	Y	0.005	0.040	C10	Y	0.003	0.02	D10	Y	<0.002	0.013	E10	Y	0.003	<0.01	F10	Y	0.005	0.010	G10	Y	0.005	0.011	H10	Y	<0.003	<0.020																										
2101 Chippewa	1	L	G	A11	0.002	0.005	B11	Y	0.003	0.048																																																		
3613 Cassius	1	L	C	A12	0.002	0.043	B12	Y	0.001	0.028																																																	
502 Crapo	1	L	C	A13	0.004	0.025	B13	Y	0.006	0.022	C13	Y	<0.002	0.02	D13	Y	<0.002	0.018	E13	Y	<0.002	0.010	F13	Y	<0.002	0.010																																				
2202 Joliet	1	L	G	A14	0.005	0.019	B14	Y	0.005	<0.020																																																
310 E. Foss	1	L	C	A15	0.002	0.030																																																				
3714 Circle	1	L	C	A16	0.014	0.035	B16	Y	0.018	0.053																																															
4317 Pengelly	1	L	C	A17	0.008	0.101	B17	Y	0.011	0.023																																															
2214 Nebraska	1	L	C	A18	0.001	0.037	B18	Y	0.001	0.036																																														
2937 Oklahoma	1	L	G	A19	0.013	0.082	B19	Y	0.009	0.073																																														
734 E. Foss	1	L	C	A20	0.004	0.005	B20	Y	0.004	<0.020																																													
530 Leta	1	L	C	A21	0.004	0.085	B21	Y	0.001	<0.020																																													
1922 Barth	1	L	G	A22	0.003	0.022	B22	Y	0.002	0.200	C22	Y	<0.002	0.08					E22	Y	<0.002	0.010																																			
309 Marquette	1	L	C	A23	0.017	0.073	B23	Y	0.020	0.034																																												
318 Marquette	1	L	G	A24	0.009	0.079	B24	Y	0.008	0.080																																												
2428 Thomas	1	L	G	A25	0.009	0.161	B25	Y	0.009	0.115																																												
2443 Thomas	1	L	C	A26	0.006	0.200	B26	Y	0.004	0.141	C26	Y	<0.002	0.1	D26	Y	<0.002	0.090	E26	Y	<0.002	0.070	F26	Y	<0.002	0.110	G26	Y	0.002	0.069																							
2448 Thomas	1	L	G	A27	0.011	0.087	B27	Y	0.007	0.069																																											
2463 Thomas	1	L	G	A28	0.025	0.273	B28	Y	0.023	0.619																																											
2472 Thomas	1	L	G	A29	0.010	0.011	B29	Y	0.008	0.027	C29	Y	0.023	0.02	D29	Y	0.009	0.006	E29	Y	0.013	<0.01	F29	Y	0.013	<0.01	G29	Y	0.017	0.008	H29	Y	0.003	<0.020																										
2420 Norbert	1	L	G	A30	0.006	0.027	B30	Y	0.004	0.023																																											
2448 Nolen	1	L	C	A31	0.006	0.346	B31	Y	0.002	0.084																																											
611 Weller	1	L	C	A32	0.018	0.075	B32	Y	0.011	0.067	C32	Y	0.009	0.06	D32	Y	0.009	0.042	E32	Y	0.006	0.040	F32	Y	0.003	0.030	G32	Y	0.005	0.032	H32	Y	0.006	0.04																										
1613 Woodlawn Pk	1	L	G	A33	0.034	0.025	B33	Y	0.008	0.050	C33	Y	0.004	0.01	D33	Y	<0.002	0.035	E33	Y	0.002	0.430	F33	Y	0.01	0.530	G33	Y	0.005	0.137	H33	Y	<0.003	0.27	I33	Y	<0.003	0.095															
238 Peer	1	L	C				B34	New	0.009	0.069																																											
508 Avon	1	L	C								C35	New	0.005	0.15	D35	Y	0.004	0.105	E35	Y	0.004	0.030	F35	Y	0.003	0.130																																	
352 Commonwealth	1	L	C								C36	New	<0.002	0.02	D36	Y	<0.002	0.008	E36	Y	<0.002	<0.01	F36	Y	<0.002	0.020	G36	Y	0.003	0.085																									
2026 Hill	1	L	C								C37	New	<0.002	0.02	D37	Y	<0.002	0.006																																							
2014 Leith	1	L	G								C38	New	<0.002	<0.01																																									
1519 Lincoln	1	L	C								C39	New	<0.002	0.03	D39	Y	<0.002	0.010	E39	Y	0.003	0.010	F39	Y	0.003	<0.01	G39	Y	<0.002	0.005	H39	Y	<0.003	<0.020																							
1401 Maplewood	1	L	G								C40	New	0.004	0.02	D40	Y	<0.002	0.017	E40	Y	<0.002	0.010	F40	Y	0.002	0.030	G40	Y	0.003	0.022	H40	Y	<0.003	0.02																							
509 Mathewson	1	L	L								C41	New	<0.002	0.01	D41	Y	<0.002	0.031	E41	Y	<0.002	<0.01	F41	Y	<0.002	0.060																													
1805 Proctor	1	L	G								C42	New	0.005	0.03					E42	Y	0.003	0.050	F42	Y	0.004	0.110																									
2751 Swayze	1	L	L								C43	New	<0.002	0.03	D43	Y	<0.002	0.014	E43	Y	0.003	<0.01	F43	Y	<0.002	<0.01																													
2467 Thomas	1	L	G								C44	New	0.002	0.07	D44	Y	<0.002	0.008	E44	Y	0.004	<0.01	F44	Y	0.003	<0.01	G44	Y	0.023	0.005																							
2207 Windemere	1	L	G								C45	New	0.003	0.07	D45	Y	0.009	0.047					F45	Y	0.007	0.010	G45	Y	0.006	0.006																							
2701 Yale	1	L	C								C46	New	<0.002	0.02	D46	Y	<0.002	0.004	E46	Y	<0.002	<0.01																													
2705 Yale	1	L	C								C47	New	<0.002	0.03																																			
2709 Yale	1	L	C								C48	New	<0.002	0.03	D48	Y	<0.002	0.032					F48	Y	<0.002	0.03																							
2710 Yale	1	L	C								C49	New	0.003	0.05					E49	Y	<0.002	0.010	F49	Y	<0.002	0.02	G49	Y	<0.002	0.008	H49	Y	0.003	0.040																	
2713 Yale	1	L	C								C50	New	<0.002	0.02	D50	Y	0.002	0.003					F50	Y	<0.002	0.02	G50	Y	<0.002	0.013	H50	Y	<0.003	0.03																	
2714 Yale	1	L	C								C51	New	<0.002	0	D51	Y	<0.002	0.003																																	
2717 Yale	1	L	C								C52	New	0.003	0.03	D52	Y	0.002	0.003																																	
2718 Yale	1	L	C								C53	New	0.002	0.04	D53	Y	0.003	0.003	E53	Y	0.002	0.030	F53	Y	0.003	0.05																									
2721 Yale	1	L	C								C54	New	<0.002	0.02	D54	Y	<0.002	0.003																																	
2734 Yale	1	L	C								C55	New	<0.002	0.02	D55	Y	<0.002	0.021	E55	Y	<0.002	<0.01																													
2801 Yale	1	L	C								C56	New	0.002	0.03																																			
1701 Pennsylvania	1	L	G,C												D57	New	0.005	0.029																													
2937 Oklahoma	1	L	C												D58	New	0.003	0.138																													
2465 Norbert	1	L	G,C												D59	New	0.003	0.003	E59	Y	0.004	<0.01	F59	Y	0.002	0.01	G59	Y	0.004	0.006	H59	Y	<0.003	<0.020													
2453 Norbert	1	L	G,C												D60	New	<0.002	0.029																													
2471 Norbert	1	L	G,C												D61	New	0.003	0.027	E61	Y	0.003	<0.01	F61	Y	0.003	<0.01	G61	Y	0.005	0.019	H61	Y	0.003	<0.020													
2436 Norbert	1	L	G,C												D62	New	<0.002	0.003	E62	Y	0.003	<0.01									H92	Y	<0.003	<0.020													
2459 Norbert	1	L	C																E63	New	0.002	<0.01					G76	N (L/G)	0.004	0.009																	
2440 Norbert	1	L	C																E64	New	<0.002	<0.01																							J64	Y	0.002	0.036			
2470 Nolen Dr.	1	L	C																E65	New	0.002	0.01																											
3413 Brunswick	1	L	C																E66	New	0.008	<0.01	F66	Y	0.005	<0.01	G66	Y	0.004	0.009	H66	Y	0.009	<0.020									J66	Y	<0.002	<0.010	K66	Y	<0.002	<0.005	L66	Y	<0.002	<0.005
416 Marquette	1	L	C																E67	New	<0.002	<0.01																											
2230 Winona	1	L	C																E68	New	0.006	0.07	F68	Y	<0.002	0.01	G68	Y	0.003	0.012	H68	Y	0.007	<0.020															
2574 Nolen	1	L	C																E69	New	<0.002	0.02																											
3714 Leith	1	L	C																				F70	New	<0.002	0.07	G70	Y	<0.002	0.033	H70	Y	<0.003	<0.020	I70	Y	<0.003	<0.020													
915 Hughes	1	L	C																				F71	New	0.002	<0.01	G71	Y	0.007	0.012	H71	Y	<0.003	<0.020															
2706 Cumings	1	L	C																				F72	New	<0.002	0.01	G72	Y	<0.002	0.005	H72	Y	<0.003	0.02															
1922 Bagley	1	L	C																				F73	New	0.003	0.02																											
2014 Leith	1	L	C																				F74	New	<0.002	<0.01																											
2111 Brownell Blvd.	1	L	C																				F75	New	0.003	0.06																											
2619 Thomas	1	L	G																								G77	New	0.004	0.022	H76	Y	<0.003	<0.020													
2522 Wolcott	1	L	C																								G78	New	<0.002	0.05	H78	Y	<0.003	0.05													
3202 Camden	1	L	C																								G79	New	<0.002	0.05	H79	Y	<0.003	<0.020	I79	Y	<0.003	<0.020							
313 E. Stewart	1	L	G																								G80	New	<0.002	0.004	H80	Y	<0.003	0.02													
2126 Nebraska	1	L	C																								G81	New	<0.002	0.028	H81	Y	<0.003	0.09	I81	Y	<0.003	0.116							
206 Baker St.	1	L	C																								G82	New	<0.002	0.007																	
229 Baker St.	1	L	C																								G83	New	0.01	0.016																	
911 Hughes	1	L	C																								G84	New	0.004	0.008	H84	Y	0.006	<0.020													
422 W. Taylor	no data	no data	no data																								G85	New	<0.002	0.051																	
1405 Maplewood	1	L	C																								G86	New	0.006	0.008	H86	Y	<0.003	<0.020													
2306 Levern	1	L	G/C																												H87	New	<0.003	<0.020													
1906 Knapman	1	L	C																												H88	New	<0.003	<0.020													
2310-610 Garland	1	L	G/C																												H89	New	0.005	<0.020													
928 Garland	1	L	G/C																												H90	New	<0.003	<0.020													
5801 Edwards Ave.	1	L	C																												H91	New	<0.003	<0.020													
3706 Leith	1	L	C																												H93	New	<0.003	<0.020													
911 Beard	1	L	G/C																												H94	New	<0.003	<0.020													
830 E. 7th Street	1	L	G																																I95	New	<0.003	<0.020									
841 E. 7th Street	1	L	G																																I96	New	<0.003	<0.020									
849 E. 7th Street	1	L	G																																I97	New	<0.003	<0.020									
857 E. 7th Street	1	L	G																																I98	New	0.004	0.072									
903 E. 7th Street	1	L	G																																I99	New	<0.003	<0.020									
906 E. 7th Street	1	L	G																																I100	New	0.007	<0.020									
909 E. 7th Street	1	L	G																																I101	New	<0.003	0.124									
911 E. 7th Street	1	L	G																																I102	New	<0.003	0.059									
915 E. 7th Street	1	L	G																																I103	New	<0.003	<0.020									

| | | |

| | | |

| | | |

This Document is a Non-Responsive Attachment.

Michigan Community Water Supplies that have previously listed lead service line materials as part of Lead and Copper compliance monitoring – partial list

Supply Name and Water Supply Serial Number

Allen Park 0130
Ash Twp. 0245
Bloomfield Twp. 0790
Brownstown 0940
Centerline 1290
Dearborn Heights 1740
Dearborn 1730
Eastpoint 1950
Ecorse 2050
Farmington 2230
Ferndale 2280
Flat Rock 2300
Flint 2310
Garden City 2550
Gibraltar 2630
Grosse Ile 2870
Grosse Pointe Park 2900
Grosse Pointe Woods 2920
Hamtramck 2970
Harper Woods 3020
Hazel Park 3100
Huron Twp. 3320
Inkster 3360
Lincoln Park 3870
Livonia 3930
Madison Heights 4000
Melvindale 4420
Oak Park 4880
Plymouth Twp. 5420
Plymouth 5400
Pontiac 5440
Redford Twp. 5640
River Rouge 5690
Riverview 5710
Rockwood 5750
Romulus 5785
Roseville 5820
Southgate 6170
St. Clair Shores 6280
Taylor 6545
Trenton 6650
Troy 6690
Utica 6760
Warren 6900
Wayne 6950
Westland 7470/7040
Ypsilanti Twp. 7260
Berkley 0630
Beverly Hills 0690
Birmingham 0730
Clawson 1440
Huntington Woods 3310
Lathrup Village 3800
Pleasant Ridge 5390
Royal Oak 5830
Southfield 6160
Greater Genesee County Water Supply Systems 2615
Detroit 1800

Lansing BWL 3760
Bay City 0470

From: Lyon, Nick (DCH)
Sent: Monday, September 28, 2015 7:23 AM
To: Wyant, Dan (DEQ)
Subject: Re: Proposed Press Conference on Flint Drinking Water

Call my cell. PPI .

On Sep 28, 2015, at 7:17 AM, Wyant, Dan (DEQ) <WyantD@michigan.gov> wrote:

Per the ongoing issues in Flint concerning their drinking water, I would offer the following recommendations. Let's discuss.

Recommendation

Press Conference in Flint – Wednesday, Thursday or Friday.

Participants

Mayor of Flint
Dan Wyant – Michigan Department of Environmental Quality
Nick Lyon – Department of Community Health
Susan Hedman – Region 5 Administrator or EPA
Harvey Hollins – Governor's office
Local Public Health Department

Announcement

Federal – State – Local action plan to address Flint Drinking Water

1. Governor Snyder names Dr. Dean Sienko as Flint drinking water Public Health Advisor.

2. All Flint schools water will immediately be tested to ensure that drinking water is safe.

3. Advisories will be disseminated recommending citizens flush your cold water pipes, use only water from the cold water tap for drinking, cooking and especially for making baby formula.

4. Implementation of fully optimized corrosion controls in the Flint drinking water system.

5. Expanded water testing of at risk properties.

6. Offer water testing at no cost to Flint residents to assure water is safe.

7. Convene a safe drinking water " Technical Review Advisory" to ensure best technology, practices and science is being utilized, including EPA's expertise and assistance from their Office of Research and Development.

8. Offer bottled water and premixed formula if test results indicate high levels of lead.

9. Accelerate water system improvements to address replacement of lead service lines.

Dan Wyant, Director
Department of Environmental Quality
517-284-6700 (New Number)

Subject: RDS/DM/BM/NL/DW - Call to Congressman Dan Kildee
Location: By Phone

Start: Mon 9/28/2015 10:30 AM
End: Mon 9/28/2015 11:00 AM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: GovCalendar
Required Attendees: Mcbride, Bill (GOV); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Lyon, Nick (DCH); Grijalva, Nancy (DCH); Muchmore, Dennis (GOV); Wisniewski, Wendy (GOV)

Purpose: Request from Kildee to talk about the lead in the water in Flint

PPI

PPI

PPI

Host: PPI - DM to dial in as host

POC: Jordan Dickinson – 202-225-3611 jordan.dickinson@mail.house.gov or Brunner, Nathan Nathan.Brunner@mail.house.gov

From: Dayne Walling <dwalling@cityofflint.com>
Sent: Monday, September 28, 2015 1:20 PM
To: Wyant, Dan (DEQ)
Subject: Fwd: DEQ Flint water docs
Attachments: Flint Testing and EBLLs_2.xlsx; Flint water FAQs.pdf

Dan, as your team looks at this, please see about any data available more recently than April 2015.
we may also want an updated FAQ with City, DEQ and EPA logos on it
Thanks, Dayne
--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com
www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling

---------- Forwarded message ----------
From: **Wurfel, Brad (DEQ)** <WurfelB@michigan.gov>
Date: Mon, Sep 21, 2015 at 2:35 PM
Subject: DEQ Flint water docs
To: "dwalling@cityofflint.com" <dwalling@cityofflint.com>

Mr. Mayor,

Here's the docs you asked for.

Thanks!

b

Brad Wurfel

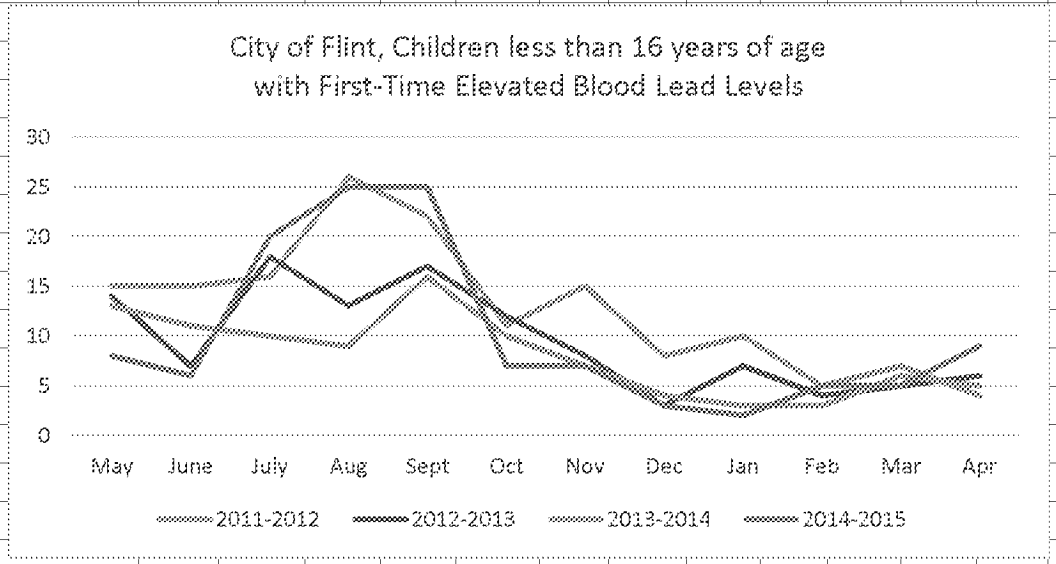
Communications Director

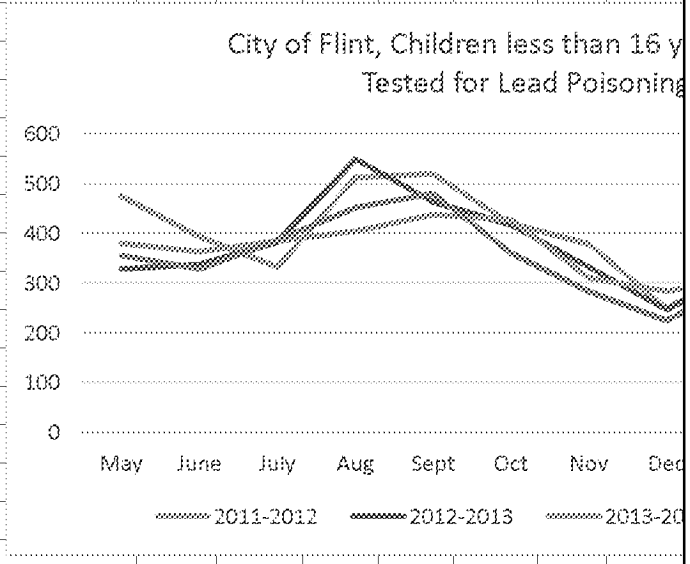
Michigan Department of Environmental Quality

517-284-6713

PPI cell

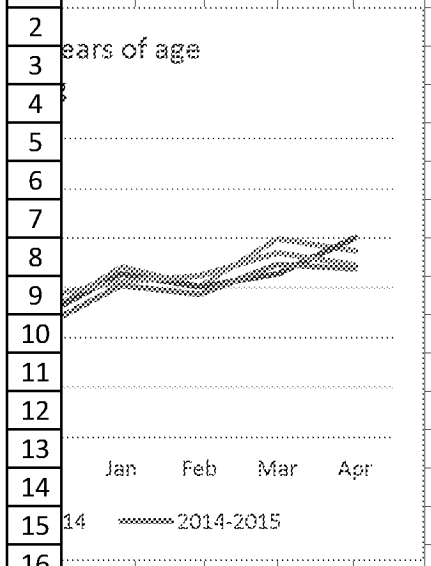
--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com
www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling



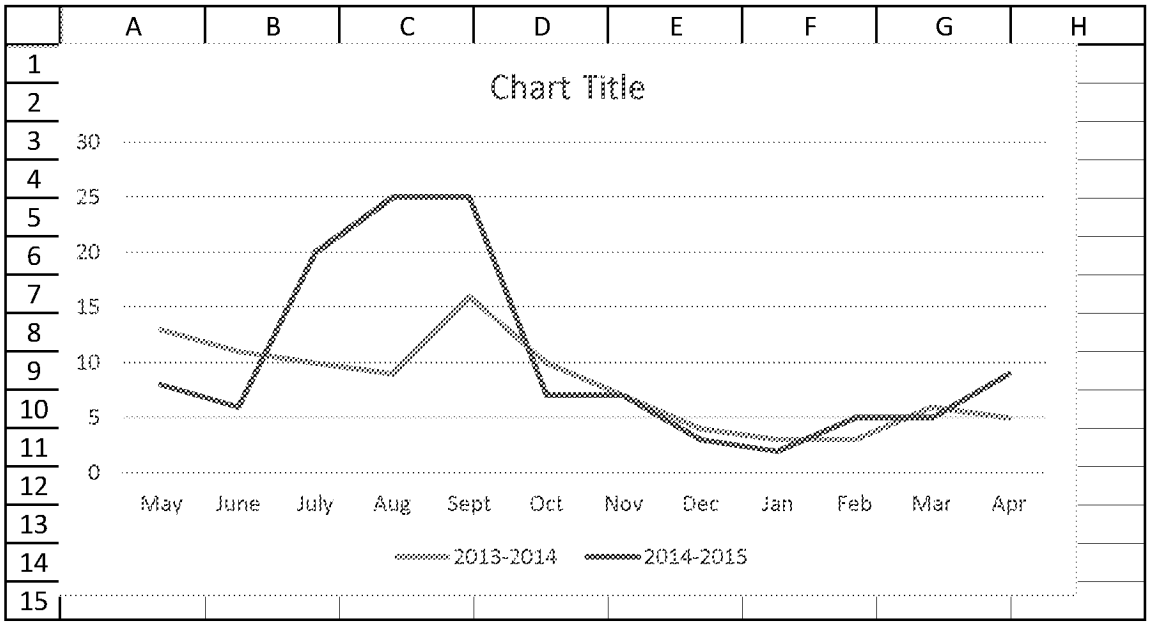


		May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
2011-2012		15	15	16	26	22	11	15	8	10	5	7	4
2012-2013		14	7	18	13	17	12	8	3	7	4	5	6
2013-2014		13	11	10	9	16	10	7	4	3	3	6	5
2014-2015		8	6	20	25	25	7	7	3	2	5	5	9

		May	June	July	Aug	Sept	Oct	Nov
2011-2012		474	393	332	513	520	420	379
2012-2013		328	338	383	550	464	417	332
2013-2014		380	363	385	404	438	427	310
2014-2015		356	329	386	452	480	361	283



	W	X	Y	Z	AA	AB
18	Dec	Jan	Feb	Mar	Apr	
19	249	343	303	399	375	
20	246	328	303	328	402	
21	283	313	325	371	346	
22	224	305	287	348	339	


Chart Title
30
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May
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July
Aug
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Nov
Dec
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Apr
2013-2014
2014-2015

Frequently Asked Questions:
Water Lead Levels in the City of Flint
September 2015

How can lead get into drinking water?
Lead detections in Flint drinking water exist at the home level. Sampling at the Flint Water Treatment Plant has shown no lead in its treated water. However, this contaminant leaches into water from a home's lead service lines, lead solder, and leaded plumbing materials including fixtures, faucets, and fittings.

Does the city meet federal drinking water standards for lead and copper?
Yes, the city is meeting state and federal guidelines for lead and copper.

The City of Flint has regularly monitored for lead and copper since federal law began requiring it in 1991.

When the City changed water sources in May 2014, state and federal law required the city to sample for lead and copper for a full year to determine how the water may be interacting with residential lead plumbing to increase lead levels. While the city's results show residential lead levels below the federal threshold for immediate response activities, Flint is moving quickly to optimize corrosion control measures in its water system.

Some individual homes showed high numbers for lead. Isn't that a concern?
For the homeowner, yes it is. There is no "safe" level for lead, and while the leading cause of lead poisoning around the country is lead paint, any source of lead ingestion is worthy of concern.

But the State and federal guidelines for lead and copper acknowledge an important reality: Any home that has a lead service connection or lead plumbing will impart some varying amount of lead into the home's water. The only way to eliminate lead in a home water system is to remove lead plumbing or replace lead service connections to the city system.

The lead and copper rule requires the local operator to sample dozens, sometimes hundreds of homes in the service area to get a general sense of how the water supply is interacting with lead plumbing and service connections. The tests are done specifically at homes with lead service connections. Individual results vary and all participants are

Are there other ways the city monitors for lead exposure?
The County Health Department, overseen statewide by the Michigan Department of Health and Human Services, regularly monitors blood levels in children throughout Michigan communities. The leading cause of lead poisoning is exposure to lead paint.

Blood lead level testing results for the 12-month period just after the City of Flint changed its water source (May 2014 – April 2015) showed no significant change in the pattern of blood lead levels in Flint, compared to the previous three years. This data suggests the recent change in water source by the City of Flint has not contributed to an increase in lead exposure throughout the community.

How does the state decide if the water is creating a lead problem?
Compliance with the federal lead rule is based on a 90th percentile calculation. If more than 10 percent of samples report lead above the federal action level of **15 parts per billion**, a water supply has an "action level exceedance." An exceedance is not a violation. It triggers other requirements which could include public notification, additional water quality sampling, and possibly further treatment.

While some of Flint's individual samples exceeded the 15 parts-per-billion lead action level, compliance is based on **the 90th percentile of samples**. The City of Flint's 90th percentile level has ranged between 0 parts per billion in 2008 and 2011, and 15 parts per billion in 1992, but never exceeded the action level.

The two most recent sampling periods, in 2014 and 2015, were 6 parts per billion and 11 parts per billion, respectively.

Did the city use <u>every</u> sample they got back?
Sampling requirements for lead and copper are designed to target the most common pathways to lead ingestion in homes with the least protection. The sample must be collected from a commonly used kitchen or bathroom tap, and in accordance with the provided sampling instructions. Homes that employ filtration or additional treatment cannot be included. Samples must also be collected within the established monitoring period.

I have a lead service connection or lead plumbing. What should I do?
Replacement is the only way to eliminate lead exposure. However, here are some interim steps homeowners can take to reduce it:

Flush pipes before drinking, and only use cold water for consumption.

The more time water has been sitting in your home's pipes, the more lead it may contain. When water in a particular faucet has not been used for six hours or longer, "flush" cold-water pipes by running the water until it becomes as cold as it will get. This could take five to 30 seconds if there has been recent water use elsewhere in the home, such as showering or flushing toilets. Otherwise, it could take two minutes or longer.

Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead.

Who is responsible for replacement of leaded materials?

Replacement of service pipes on private property and any leaded plumbing materials within the home is a **homeowner's responsibility**. The City of Flint owns the service pipe from the water main to the curb stop valve, and that is **the City's responsibility**. This valve is normally located two feet in from the street curb. From there to the house is private property and the responsibility of the homeowner.

Why doesn't the city at least replace its portion of lead service lines?

Partial lead service line replacement has been shown to mobilize more lead and make the situation worse. Only full lead service line replacement has been demonstrated effective in achieving long-term reductions in drinking water lead levels.

What is the City's timeline for installation of corrosion control treatment?

The federal government allows the steps to complete the installation of optimal corrosion control treatment and follow-up monitoring to take up to five years.

However, the City of Flint has committed to completing installation of Optimized Corrosion Control Treatment in **less than six months**.

What will happen when Flint joins the Karegnondi Water Authority next year?

The City has committed to having Optimized Corrosion Control Treatment in place prior to its connection with the Karegnondi Water Authority (KWA). The water provided by KWA will come from a new source, Lake Huron. The city will continue its lead and copper sampling every six months. Additionally, the city's water treatment plant will continue to operate with uninterrupted Optimized Corrosion Control Treatment.

How long would it take to replace lead service lines throughout Flint?

The city has about 32,900 service connections in total. **More than 15,000** of these connections are considered lead service lines. Even if many crews were contracted, it would likely take up to 15 years to complete this work.

What would it cost to replace the lead service line at my house?

Average costs to replace a lead service line at an individual home range from $2,000 to $8,000. Costs vary depending on the length and size of service line that is needed, as well as the ground cover and soil conditions encountered.

With more than 15,000 lead service lines at an estimated average cost of $4,000 for each replacement, total cost could **be $60 million or more**.

From: Busch, Stephen (DEQ)
Sent: Monday, September 28, 2015 5:41 PM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Subject: Fwd: Letter to Governor Regarding Flint Water
Attachments: 09.28.2015-letter-ananich-snyder-water-requests.pdf; ATT00001.htm

I didn't see you on the distribution list.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

Begin forwarded message:

> **From:** The Office of Senator Ananich <SenJAnanich@senate.michigan.gov>
> **Date:** September 28, 2015 at 4:07:45 PM EDT
> **To:** "Jordan.Dickinson@mail.house.gov" <Jordan.Dickinson@mail.house.gov>, "mayor@cityofflint.com" <mayor@cityofflint.com>, "HCroft@cityofflint.com" <HCroft@cityofflint.com>, "hedman.susan@epa.gov" <hedman.susan@epa.gov>, "poy.thomas@epa.gov" <poy.thomas@epa.gov>, "Schock.michael@epa.gov" <Schock.michael@epa.gov>, "Lytle.darren@epa.gov" <Lytle.darren@epa.gov>, "fortin.denise@epa.gov" <fortin.denise@epa.gov>, "ShekterL@michigan.gov" <ShekterL@michigan.gov>, "Cookp@michigan.gov" <Cookp@michigan.gov>, "BuschS@michigan.gov" <BuschS@michigan.gov>, "Wurfelb@michigan.gov" <Wurfelb@michigan.gov>, "Edwardsm@vt.edu" <Edwardsm@vt.edu>
> **Subject: Letter to Governor Regarding Flint Water**
>
> Good Afternoon,
>
> Please see the attached letter that my office sent to Governor Rick Snyder earlier today. The letter contains a series of short, medium, and long-term requests to ensure access to safe drinking water in the City of Flint.
>
> As I said in a statement to the press, my constituents and I believe the state must act urgently to provide concrete solutions to the public health crisis in the City of Flint. In speaking with Governor Snyder and his key aides today, I stressed the need to work together on a number of initiatives that will ensure safe water for Flint residents. My formal request included immediate and long-term solutions, and strong consideration for switching back to the Detroit water source until the Karegnondi Pipeline Authority project is complete. Anything less than an aggressive, comprehensive approach is simply unacceptable.
>
> Please do not hesitate to contact my office if you have any questions. Thank you for your time and attention.
>
> Sincerely,

The Office of State Senator Jim Ananich
Senate Minority Leader
District 27

SENATE MINORITY LEADER
JIM ANANICH

517.373.0142
senjananich@senate.michigan.gov
senatedems.com/ananich

September 28, 2015

State of Michigan
Executive Office of the Governor
P.O. Box 30013
Lansing, MI 48909

Governor Snyder,

Access to safe, affordable drinking water is a basic necessity for every community. It is completely unacceptable that respected scientific experts and our trusted local physicians have verified that the City of Flint's drinking water is dangerous for our citizens, especially our most vulnerable young people.

As a result, I am formally requesting assistance as suggested by the experts on the frontline of this public health crisis. Here are the top priorities we should work together to address:

1. **Swift transfer to a safe source of water until the Karegnondi Water Authority (KWA) project is complete next year.** Your administration has the ability to ensure a financially acceptable and responsible contract between Flint and the Detroit Water and Sewerage Department, particularly in light of the public health implications with the Flint River supply.

2. **Equally urgent is the need for corrosion control as recommended by independent scientific experts.** There are chemical treatment additives that could help reduce this corrosion. I urge you to help the city implement anti-corrosion methods immediately. The current emergency makes the January timeline unacceptable.

3. **Filters and bottled water assistance.** Flint water touches the entire city. Whether it's a person's home, work, school, restaurant or place of worship, access to safe, clean drinking water should not be hindered. Water filters, used in conjunction with corrosion control methods, are necessary to help guard against toxic exposure.

   I have been working with the philanthropic community and private sector to secure donations to acquire filters and water; however, more funds will be necessary to effectively cover the thousands of residents impacted. I would like to formally request emergency funding to help supplement the acquisition of water filters and bottled water. Any and all appropriate state or federal money to help accomplish this feat should be considered.

SENATE MINORITY LEADER
JIM ANANICH

517.373.0142
senjananich@senate.michigan.gov
senatedems.com/ananich

4. **Support for completion of the KWA pipeline.** It is presumed that the upcoming KWA pipeline will solve a number of problems associated with the current sourcing of Flint's water from the Flint River. I am requesting a meeting between representatives from your office, KWA board members and project engineers to discuss any options to expedite the pipeline's construction.

5. **A long-term commitment to addressing outdated infrastructure.** A recent EPA report just outlined the billions of dollars necessary over the next several decades to adequately secure safe water for our entire state. You have the position and opportunity to be a national leader on moving the debate forward on this topic so that we can avoid the type of catastrophe my community is grappling with today.

I look forward to working with you to deliver on these concrete and urgent action items to alleviate the public health crisis facing our residents.

We jeopardize any progress and comeback for our cities and state if we cannot ensure safe, basic necessities for our families or if we cannot come together swiftly to fix an identified, severe threat to the safety of our people.

Sincerely,

Jim Ananich
Senate Democratic Leader
District 27

cc:
U.S. Representative Dan Kildee
Mayor Dayne Walling, City of Flint
Howard Croft, City of Flint
Susan Hedman, EPA
Thomas Poy, EPA
Michael Schock, EPA-ORD
Darren Lytle, EPA-ORD
Denise Fortin, EPA
Liane Shekter-Smith, MDEQ
Pat Cook, MDEQ
Stephen Busch, MDEQ
Brad Wurfel, MDEQ
Marc Edwards, Virginia Tech

From: Epkey, Amy (DEQ)
Sent: Tuesday, September 29, 2015 12:30 PM
To: Wyant, Dan (DEQ);Pallone, Maggie (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: FW: Emergency fund - Flint Water

Per our conversation, I will wait until I hear back from you before I follow-up with Josh.

From: Josh Sefton [mailto:jsefton@senate.michigan.gov]
Sent: Tuesday, September 29, 2015 11:53 AM
To: Epkey, Amy (DEQ) <epkeya@michigan.gov>
Subject: Emergency fund - Flint Water

Hi Amy- You can ignore my voicemail; I was distracted so it might not make much sense. Anyway, Sen. Ananich was talking with Dan Wyant about money for Flint's water problem and the director suggested that there was some kind of emergency fund. Was he referring to the Disaster and Emergency Contingency Fund that's appropriated in the MSP budget? If not do you know which one?
Thanks!
Josh

From: Wurfel, Brad (DEQ)
Sent: Wednesday, September 30, 2015 9:53 AM
To: Wurfel, Sara (GOV);Wyant, Dan (DEQ)
Cc: Tommasulo, Karen (DEQ)
Subject: FW: Kettering Host City-State-EPA press conference

Importance: High

Seems we may have a location after all? Sara, let me know if you want me to move on booking this. Thanks.
b

From: Jack Stock [mailto:jstock@kettering.edu]
Sent: Wednesday, September 30, 2015 9:09 AM
To: Wurfel, Brad (DEQ)
Cc: Dayne Walling; Paul Crane; Susan Davies
Subject: Re: Kettering Host City-State-EPA press conference

Hi, yes, Friday works for us. I'd like to suggest using our Innovation Center building, which is on Bluff street off Chevrolet Avenue.

Please let me know if this would work?

Jack

On Wed, Sep 30, 2015 at 8:02 AM, Wurfel, Brad (DEQ) <WurfelB@michigan.gov> wrote:
Would it change anything if the event was Friday afternoon?

Sent from my iPhone

On Sep 29, 2015, at 5:20 PM, Jack Stock <jstock@kettering.edu> wrote:

> Brad,
>
> Sorry, I was mistaken. Ms. Davies is correct.
>
> Perhaps another time?
>
> Jack
>
> Sent from my iPhone
>
> On Sep 29, 2015, at 12:30 PM, Susan Davies <sdavies@kettering.edu> wrote:
>
> > Dayne,
> >
> > Jack Stock will be in touch with your office to help coordinate logistics.

Sue

On Tue, Sep 29, 2015 at 9:06 AM, Dayne Walling <dwalling@cityofflint.com> wrote:
Dear Dr. McMahan and Kettering Team,
We are in discussions with the Michigan Department of Environmental Quality and the US Environmental Protection Agency about a press conference on this Thursday to announce next steps in fixing Flint's water problems. Since it is a collaborative announcement we are looking for a community site and thought of Kettering as our first option.

Would you be willing to please work with us on providing an appropriate space and AV/tech support? The MDEQ Communications Director Brad Wurfel (cc) is the point of contact.

Please let us know given the very short timeline here and needless to say this is confidential at this point.

Thanks, Dayne
--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com
www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling

--

Susan L. Davies, CFRE

Vice President of University Advancement and External Relations
Kettering University
810-762-9927
sdavies@kettering.edu

Kettering University

"Believe and act as if it were impossible to fail." ~ Charles F. Kettering

--
Jack Stock
Director of External Relations
University Advancement and External Relations

Email: jstock@kettering.edu ~ URL: http://kettering.edu
Phone: (810) 762-7873 ~ Fax: (810) 762-7435 ~ Cell: PPI
Call toll-free in the USA and Canada at 1-800-955-4464, extension 7873
1700 University Avenue ~ Flint, MI 48504

Kettering University

From: Shaler, Karen (DEQ)
Sent: Wednesday, September 30, 2015 11:56 AM
To: Wyant, Dan (DEQ)
Cc: Thelen, Mary Beth (DEQ)
Subject: Phone Message: Andy Leavitt Called with Marc Edwards' Phone Number

Andy Leavitt called and said you asked him for the phone number for Marc Edwards, Virginia Tech, which is: PPI

FYI, Mr. Edwards has also sent several FOIA requests to DEQ via e-mail, which is: edwardsm@vt.edu

---

From: Thelen, Mary Beth (DEQ)
Sent: Tuesday, September 29, 2015 8:27 PM
To: Shaler, Karen (DEQ)
Subject: FW: Testing Flint Schools

Keep this number handy in case the Director asks.

From: Pallone, Maggie (DEQ)
Sent: Tuesday, September 29, 2015 10:09 AM
To: Thelen, Mary Beth (DEQ)
Subject: FW: Testing Flint Schools

From: Andrew Leavitt [mailto:ALeavitt@senate.michigan.gov]
Sent: Monday, September 28, 2015 4:30 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Subject: Re: Testing Flint Schools

PPI

Thanks

From: "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>
Date: Monday, September 28, 2015 at 4:23 PM
To: Andy Leavitt <aleavitt@senate.michigan.gov>
Subject: RE: Testing Flint Schools

Hi Andy-
What's your number?

Maggie

From: Andrew Leavitt [mailto:ALeavitt@senate.michigan.gov]
Sent: Monday, September 28, 2015 2:10 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Subject: Re: Testing Flint Schools

Hi Maggie,

Any movement on this? I have several large institutions asking similar questions.What is the best way they can test? What is that protocol? Is it a city test?

Thanks,

Andy

From: Andy Leavitt <aleavitt@senate.michigan.gov>
Date: Friday, September 25, 2015 at 2:34 PM
To: "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>
Subject: Testing Flint Schools

Hi Maggie,

The Superintendent of Flint Schools would like to have his 11 buildings tested and we would like that expedited. Can you facilitate ensuring the testing gets done Monday?

Thank you,

Andy

From: Muchmore, Dennis (GOV)
Sent: Wednesday, September 30, 2015 4:33 PM
To: Wyant, Dan (DEQ)
Subject: Flint

Are you familiar with a fund called the "Environmental Protection Fund" that you have a $1.5M balance in? Can we use that as a source? Ananich wants to put a supplemental amendment in to use that and to look at attaching it for water filters.

From: Dayne Walling <dwalling@cityofflint.com>
Sent: Wednesday, September 30, 2015 10:10 PM
To: Wyant, Dan (DEQ)
Subject: what we are facing in Flint

Dan, I am continuing to communicate with a wide variety of constituents in an attempt to determine the major questions and issues. Below you will find an email that I received personally from a faith community leader who has been incredibly supportive and understanding of the challenges facing Flint. His words really hurt: "I no longer trust the city on this issue." I have searched myself over and over on this. I don't know what more I could have done given the guidance coming from EPA and DEQ and subsequently city staff but this major health issue did come up anyway and our community is paying a huge price.

As the press conference is put together, it is necessary in my mind that we provide an explanation for how this happened and outline the steps that ensure it will never happen again. If this is not provided then the trust will not begin to be restored from what I can tell. I am always available to talk more. Please consider this.

Dayne

--------- Forwarded message ----------
Date: Wed, Sep 30, 2015 at 12:48 AM
Subject: Re: water updates

Dear Mayor Walling,
You delayed your action on this issue for an inordinate amount of time. People were told over and over that it was all fine. I am very disappointed in the efforts concerned Pastors and others(the lawsuit, etc) that had to go on before anything substantial was contemplated. I am up north at a priest conference and I am astonished at the taste of the water and the lack of unpleasant smell I am finding here, in contrast to the very unpleasant experience it is to shower in Flint water. I no longer trust the city on this issue. And that we have now a lead problem for babies and children is unconscionable. Permanent brain damage is all our children need.
Respectfully yours,
Fr. Phil Schmitter

Sent from my iPhone

--
Dayne Walling
Mayor, City of Flint
City Hall, 1101 S. Saginaw St.
Flint, MI 48502
810-766-7346
mayor@cityofflint.com
www.cityofflint.com
follow me on twitter at http://twitter.com/mayorwalling

From: Thelen, Mary Beth (DEQ)
Sent: Thursday, October 01, 2015 3:32 PM
To: Wyant, Dan (DEQ)
Subject: FW: Genesee County Board Sets Press Conference Discussing Flint's Water Crisis

From: Olszewski, Rosemarie (DEQ)
Sent: Thursday, October 01, 2015 3:21 PM
To: Wurfel, Brad (DEQ); Tommasulo, Karen (DEQ)
Cc: Thelen, Mary Beth (DEQ); Feuerstein, Heather (DEQ)
Subject: Genesee County Board Sets Press Conference Discussing Flint's Water Crisis

http://www.mlive.com/news/flint/index.ssf/2015/10/genesee_county_board_to_hold_p.html#incart_river

Rosemarie
Rosemarie Olszewski
General Office Assistant - Executive Division
Michigan Department of Environmental Quality
Constitution Hall, 525 W. Allegan St.
6th Floor South Tower, Pillar P6
Telephone: 517-284-6700
Fax: 517-241-7401

From: Stanfield, Rebecca <rstanfield@nrdc.org>
Sent: Thursday, October 01, 2015 5:30 PM
To: Wyant, Dan (DEQ)
Cc: Henderson, Henry
Subject: Flint drinking water
Attachments: Emergency SDWA Petition.pdf

Hello Dan: Attached please find our emergency SDWA petition to U.S. EPA regarding the Flint situation. Here's a link to the release: http://www.nrdc.org/media/2015/151001a.asp Henry Henderson, NRDC's Midwest Director is the person to contact about this. He's at hhenderson@nrdc.org and is cc'd here.

Rebecca Stanfield
Deputy Director
Midwest Program

Natural Resources
Defense Council
20 N. Wacker Drive, Suite 1600
Chicago, IL 60606
T 312.651.7910
M 773.454.0155
rstanfield@nrdc.org
@https://twitter.com/rdstanfieldNRDC
NRDC.ORG

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BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Petition for Emergency Action under the Safe Drinking Water Act, 42 U.S.C. § 300i, to Abate the Imminent and Substantial Endangerment to Flint, Michigan Residents from Lead Contamination in Drinking Water

---

Submitted on Behalf of Petitioners Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and the Natural Resources Defense Council

October 1, 2015

Notice of Petition

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, DC 20460

Susan Hedman
Regional Administrator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604-3507

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4. Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post (July 10, 2015)

5. Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America (Apr. 3, 2015)

6. Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live (Sept. 5, 2014)

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8. Michigan Department of Environmental Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014)

9. U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water

10. Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015)

11. Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015)

12. Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015)

13. Brianna Owczarzak, *GM says no to Flint water*, WNEM (Oct. 14, 2014)

14. U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013)

15. U.S. EPA, Basic Information About Lead in Drinking Water (last updated June 26, 2015)

16. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015)

17. City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015)

18. H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013)

19. Complaint, *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015)

20. Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live (Aug. 31, 2015)

21. Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live (Aug. 31, 2015)

22. William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live (Feb. 14, 2015)

23. AP, *Flint city councilman: 'We got bad water,'* Detroit Free Press (Jan. 14, 2015)

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26. *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015)

27. Siddhartha Roy, Flint Water Study Updates for the Citizens of Flint (Sept. 15, 2015)

28. Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live (Sept. 15, 2015)

29. *Lead testing results for water sampled by residents,* Flint Water Study (last visited Sept. 28, 2015)

30. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (Mar. 18, 2015)

31. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015)

32. Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015)

33. Mich. Dep't of Envtl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015)

34. Drinking Water Lead & Copper Sampling Instructions

35. Memorandum from Miguel A. Del Toral, Regulations Mgmr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015)

36. U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010)

37. Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008)

38. MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015)

39. Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991)

40. Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014)

41. Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013)

42. U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005)

43. Lead in Drinking Water, Wisc. Dep't of Nat. Res. (2008)

44. Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 Clinical Pediatrics (8) (1989)

45. Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 Environ. Health Perspect. (1) (2008)

46. CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly 268 (Apr. 2, 2004)

47. Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water,* 48 Envtl. Sci. & Tech. 739 (2013)

48. Email from Jennifer Crooks, U.S. EPA, to Mike Prysby (Feb. 26, 2015)

49. Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation)

50. Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press (Sept. 29, 2015)

51. Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013)

52. American FactFinder, 2009-2013 American Community Survey 5-year Estimates, Flint, Michigan and State of Michigan

53. American Cancer Society, *Lead, Lead in the Environment* (last updated May 27, 2014)

54. 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013)

55. CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977)

56. Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live (Mar. 28, 2014)

57. Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015)

58. Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015)

59. Email from Michael Glasgow (June 1, 2015)

60. City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015)

61. Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015)

62. Letter from MDEQ to MI State Senators (Sept. 17, 2015)

63. *Did this Michigan Town Poison its Children?*, U.S. News & World Report (Sept. 24, 2015)

64. Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live (Sept. 10, 2015)

65. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live (Sept. 3, 2015)

66. Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live (Sept. 25, 2015)

67. U.S. Census Bureau, American FactFinder, 2010 Demographic Profile Data, Flint Michigan

68. 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics, Flint, Michigan

69. Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by $35,* Michigan Live (June 1, 2014)

70. Ron Fonger, *Judge orders Flint to cut water rates 35 percent in sweeping injunction*, Michigan Live (Aug. 7, 2015)

71. U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011)

72. U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010)

The residents of Flint, Michigan have been and continue to be exposed to dangerous levels of lead in their drinking water. Monitoring results confirm that, in many instances, these levels are well above the threshold set by the U.S. Environmental Protection Agency (EPA) that triggers mandatory corrective action by public water systems. The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have failed to address this public health crisis, despite their awareness of these monitoring results and data showing increasing blood lead levels in children residing in Flint.

The Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and Natural Resources Defense Council (collectively, Petitioners) petition EPA to use its emergency powers under the Safe Drinking Water Act (SDWA or the Act), 42 U.S.C. § 300i, to take action to abate the imminent and substantial endangerment to human health caused by lead contamination in Flint's drinking water. As Petitioners demonstrate below, this contamination meets the SDWA requirements for immediate action by EPA and requires a comprehensive federal response.

I. Background

Water-quality problems have plagued Flint's water system since at least April 2014, when the City began using the Flint River as its water source after deciding not to continue purchasing water from Lake Huron through the Detroit Water and Sewerage Department, as it had done for nearly fifty years.[1] In the eighteen months since the switch to Flint River water, the City's drinking water has been at times discolored, foul smelling, and "laden with sediments."[2] Residents report that they have experienced hair loss, skin rashes, and vomiting after drinking the water.[3] In the summer of 2014, the City was forced to issue several boil-water notices after tap water tested positive for total coliform bacteria, which

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[1] *See* Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live, Apr. 25, 2014, http://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html (attached as Ex. 1); Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Dep't (Mar. 7, 2014) (explaining that the City "has actively pursued using the Flint River as a temporary water source" instead of accepting Detroit's offer to "provide[] Flint with the option of continuing to purchase water from DWSD") (attached as Ex. 2).

[2] *See* Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People's Skin to Erupt in Rashes and Hair to Fall Out*, The Nation, July 16, 2015, http://www.thenation.com/article/in-flint-michigan-overpriced-water-is-causing-peoples-skin-to-erupt-and-hair-to-fall-out/ (attached as Ex. 3); Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post, July 10, 2015, http://www.huffingtonpost.com/wenonah-hauter/flints-brown-water-blues_b_7765132.html (attached as Ex. 4).

[3] Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America, Apr. 3, 2015, http://america.aljazeera.com/articles/2015/4/3/flint-residents-find-state-water-control-hard-to-swallow.html (attached as Ex. 5).

suggested a possible "pathway for pathogens and fecal contamination" to enter the water system.[4]

The City's subsequent treatment of the water to kill disease-carrying pathogens resulted in elevated levels of total trihalomethanes (TTHM), a byproduct of disinfection.[5] Drinking water with TTHM levels that exceed the federal limit can cause "liver, kidney, or central nervous system problems and increased risk of cancer."[6] In response to the City's water problems, local hospitals, schools, and museums began using bottled water instead of tap water.[7] Some grocery stores reduced the price of bottled water and "sponsored community giveaways of bottled water to low income residents."[8]

Flint River water is also highly corrosive, causing dangerous amounts of lead to leach out of pipes and into the City's water system.[9] Recent sampling has shown that lead is present in Flint's water system at levels well above 15 parts per billion (ppb), the "action level" for lead under the SDWA.[10] These high lead levels put residents at risk of increased lead exposure, which can cause a broad array of serious, irreversible health effects, including cognitive impairment, decreased red blood cell survival, kidney damage, coronary heart disease, and impaired reproductive function.[11]

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[4] Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live, Sept. 5, 2014, http://www.mlive.com/news/flint/index.ssf/2014/09/flint_issues_boil_water_adviso.html (attached as Ex. 6).

[5] Robin Erb, *Who wants to drink Flint's water?*, Detroit Free Press, Jan. 23, 2015, http://www.freep.com/story/news/local/michigan/2015/01/22/water-woes-latest-hit-flint/22193291/ (attached as Ex. 7); Mich. Dep't of Envtl. Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014) (attached as Ex. 8).

[6] U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm (last updated Dec. 13, 2013) (attached as Ex. 9); *see* 40 C.F.R. § 141.64(b).

[7] Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015), ECF No. 6 (attached as Ex. 10).

[8] *Id.*

[9] Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015), http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/ (attached as Ex. 11); Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015), http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/ (attached as Ex. 12). The river water is so corrosive that in October 2014, a local GM engine plant decided to switch back to Lake Huron water to avoid damage to equipment at the plant from corrosion. Brianna Owczarzak, *GM says no to Flint water*, WNEM, Oct. 14, 2014, http://www.wnem.com/story/26785625/gm-says-no-to-flint-water (attached as Ex. 13).

[10] 40 C.F.R. § 141.80(c)(1).

[11] *See, e.g.*, U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013) (attached as Ex. 14) (summarizing health effects of lead exposure); U.S. EPA, Basic

The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have been aware of independent monitoring results showing exceedingly high lead levels in the City's drinking water for months.[12] Despite increasing public concern about the safety of the City's drinking water, neither the City nor MDEQ has taken the actions necessary to meaningfully address the problem. The City has not implemented *any* measures to treat the highly corrosive Flint River water to reduce the amount of lead leaching from service pipes.[13] And MDEQ refuses to use its enforcement authority under the SDWA or state law to require Flint to employ corrosion control measures or provide alternative safe water supplies.[14]

When state and local authorities fail to adequately address a public health crisis, the SDWA empowers EPA to act. Section 1431 of the Act vests EPA with broad emergency authority to address endangerments to public health from contaminated drinking water. The EPA Administrator may use these emergency powers "upon receipt of information that a contaminant which is present in or is likely to enter a public water system . . . may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons."[15] Once the Administrator receives this information, she may "take such actions as [s]he may deem necessary in order to protect [public] health."[16] These actions "may include (but shall not be limited to) . . . issuing such orders as may be necessary to protect the health of persons who are or may be users of such system (including travelers), including

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Information About Lead in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm (last updated June 26, 2015) (explaining that "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development," and that "[a]dults who drink this water over many years could develop kidney problems or high blood pressure") (attached as Ex. 15); *see also* National Ambient Air Quality Standards for Lead, 80 Fed. Reg. 278, 290 (Jan. 5, 2015).

[12] *See, e.g.*, Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015) (describing "[b]ig worries" for high lead test results at a Flint resident's home) (attached as Ex. 16).

[13] The City's plan to implement corrosion control measures within thirty to sixty days is inadequate to address the ongoing endangerment. *See* City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015), https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/ (attached as Ex. 17).

[14] *See* Mich. Comp. Laws Ann. §§ 325.1015(1) ("When considered necessary for protection of the public health, the department shall notify a supplier of water of the need to make changes in operations, to provide treatment, [or] to make structural changes in existing systems . . . as necessary to produce and distribute an adequate quantity of water meeting the state drinking water standards."), (3) ("If a public water supply poses an imminent hazard to the public health, the department may issue an emergency order immediately, . . . requiring such action as the department determines is necessary to protect the public health.").

[15] 42 U.S.C. § 300i(a).

[16] *Id.*

orders requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment."[17] EPA has, in the past, used its emergency powers to issue orders to provide alternative safe water sources to community members, require public notice of the drinking water hazard, require contributors to the hazard to treat or otherwise mitigate the hazardous conditions, and require additional monitoring and data-collection activities.[18]

As Petitioners demonstrate below, the lead contamination in Flint's drinking water meets the prerequisites that authorize EPA to take emergency action under the SDWA.

II. Interests of Petitioners

Petitioners are community groups and advocacy organizations seeking safe and clean water for all residents in Flint. For instance, the Coalition for Clean Water (Coalition), which includes Concerned Pastors for Social Action, Water You Fighting For, and Democracy Defense League Water Task Force, among other community members, has urged city and state officials for months to address Flint's water-quality problems. The Coalition filed a lawsuit in June 2015 in the Circuit Court for the County of Genesee seeking declaratory, injunctive, and other relief relating to Flint's water-quality problems.[19] In August 2015, Food and Water Watch, Water You Fighting For, and the Coalition for Clean Water collected more than 26,000 signatures on a petition to Mayor Dayne Walling asking the City to end its use of the Flint River as a drinking water source.[20] Community members have also organized marches[21] and met with City Council[22] to raise concerns about the quality of Flint's drinking water. These advocacy activities fueled awareness and concern

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[17] *Id.*

[18] *See* H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013), http://www.epa.gov/region10/pdf/sites/yakimagw/consent_order_yakima_valley_dairies_march2013.pdf (attached as Ex. 18).

[19] Compl., *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015) (attached as Ex. 19).

[20] Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/groups_delivering_26000_signat.html#incart_river (attached as Ex. 20); Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_mayor_accepts_petitions.html (attached as Ex. 21).

[21] William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live, Feb. 14, 2015, http://www.mlive.com/news/flint/index.ssf/2015/02/flint_residents_protest_citys.html (attached as Ex. 22).

[22] AP, *Flint city councilman: 'We got bad water,'* Detroit Free Press, Jan. 14, 2015, http://www.freep.com/story/news/local/michigan/2015/01/14/flint-water-resident-complaints/21743465/ (attached as Ex. 23).

among residents and some elected officials in Flint,[23] but have not resulted in any comprehensive action by the City or the State.

III. Lead present in and likely to continue to enter Flint's water system presents an imminent and substantial endangerment to human health

A. Lead is present in and likely to continue to enter Flint's water system

Flint's residents face ongoing endangerment from lead in their drinking water. Recent sampling data show that dangerously high levels of lead are present in and will likely continue to enter Flint's water system.[24] In August and September 2015, Dr. Marc Edwards, a water resources engineering professor at Virginia Tech, tested 252 drinking water samples collected from Flint residences. Edwards found that *ten percent* of these samples had lead levels of 25 ppb or more, substantially in excess of the federal action level of 15 ppb.[25] Several samples exceeded 100 ppb, and one sample exceeded 1000 ppb.[26] Edwards' sampling data show that lead—a contaminant under the SDWA[27]—is present in Flint's water system.

The results of Edwards' testing are even more concerning because the sampling did not target high-risk residences, as the City is required to do under the Lead and Copper Rule.[28] Because lead levels in a water system are not evenly distributed, EPA requires monitoring for lead under the SDWA to target high-risk residences, "to better ensure that high levels of lead are detected and that the system institutes treatment that provides

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[23] *See* Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015) (attached as Ex. 24); Letter from U.S. Representative Dan Kildee, U.S. Representative, to Adm'r Gina McCarthy, U.S. EPA, and Director Dan Wyant, MDEQ (Sept. 9, 2015) (attached as Ex. 25).

[24] Flint's water system is a "public water system" for purposes of the SDWA because it provides water for human consumption to more than twenty-five individuals. 42 U.S.C. § 300f(4).

[25] *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015), http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/ (attached as Ex. 26); Siddhartha Roy, Flint Water Study Updates for the Citizens of Flint (Sept. 15, 2015) (attached as Ex. 27); Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live, Sept. 15, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html (attached as Ex. 28).

[26] *Lead testing results for water sampled by residents,* Flint Water Study, http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/ (attached as Ex. 29).

[27] *See* 42 U.S.C. § 300f(6).

[28] 40 C.F.R. § 141.86(a)(3)-(5); 56 Fed. Reg. 26,460, 26,514 (June 7, 1991) (adopting approach that "require[s] water systems to collect samples from high-risk residences that are most likely to have lead problems").

uniform and adequate levels of public health protection."[29] Because targeting high-risk residences "means that the detected levels will likely be higher than if sampling were randomly distributed,"[30] Edwards' data showing a 90th percentile lead level of 25 ppb is particularly alarming given that his sampling protocol would be expected to produce *lower* results than the targeted sampling protocol mandated by the Lead and Copper Rule.

The City's monitoring data confirm that some Flint residents' water contains lead at concentrations above the federal action level. Several samples collected by the City showed lead levels as high as 397 ppb, 25 times the action level.[31] Although the City claims that its data show that the 90th percentile lead concentration is lower than the 90th percentile in Edwards' sampling pool, these differences may be attributable to the sampling methods employed by the City. For instance, the City instructed residents to pre-flush their water for "at least 5 minutes" before collecting the sample.[32] Pre-flushing has the effect of reducing the amount of lead in the sample, which is why one of the key steps residents can take to reduce their lead exposure following discovery of a lead problem is to flush their taps prior to consuming tap water.[33] Pre-flushing in sampling results in "significant underestimation of lead levels in drinking water."[34] Pre-flushing is not included in the collection procedures EPA recommends,[35] and is contrary to the Lead and Copper Rule's intent to use worst-case lead and copper sampling data.[36] Evidence also shows that in the January to June 2015 monitoring period, the City did not use a pre-developed sampling pool that targeted high-

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[29] 56 Fed. Reg. at 26,514.

[30] *Id.*

[31] *See* Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ (Mar. 18, 2015) (referring to sample with lead level at 397 ppb) (attached as Ex. 30); Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015) (referring to samples showing lead levels 22 ppb and 40 ppb) (attached as Ex. 31); Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015) (lead level at 104 ppb) (attached as Ex. 32); *see also* Mich. Dep't of Envtl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015) (showing six samples with lead levels over the action level (attached as Ex. 33).

[32] Drinking Water Lead & Copper Sampling Instructions, *available at* http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf (attached as Ex. 34).

[33] Memorandum from Miguel A. Del Toral, Regulations Mgr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015) (attached as Ex. 35).

[34] *Id.*

[35] U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010) (attached as Ex. 36).

[36] See Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008) ("[W]e believe that [pre-flushing] goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowners in the sample.") (attached as Ex. 37).

risk residences and did not sample sites consistently across monitoring periods.[37] This likewise may have caused the City's sampling results to underrepresent the 90th percentile lead level in the water system.[38]

The lead contamination in Flint's water is likely to continue. As EPA has explained, "[t]he amount of lead in drinking water depends heavily on the corrosivity of the water,"[39] and testing has shown that Flint River water is highly corrosive. Moreover, the City has no treatment program in place to control the corrosive effects of the water on the City's thousands of lead service lines.[40]

B. Lead in drinking water presents an imminent and substantial endangerment to Flint residents

The endangerment to Flint residents from lead in drinking water is both "imminent" and "substantial."[41] The endangerment to community members' health is imminent because the threat "is present *now*."[42] Highly corrosive water in the Flint River has been flowing through lead service lines in Flint's water system for more than a year without any corrosion control treatment, and sampling has already shown the existence of dangerously high levels of lead in residents' tap water.

The seriousness of the potential harms from lead exposure renders the endangerment "substantial" for purposes of the SDWA.[43] The poisonous effects of lead on "virtually every system in the body," and particularly on the developing brains of young children, are well documented.[44] "Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement," effects that are irreversible.[45]

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[37] *See infra* p. 11 & nn. 70-74; 40 C.F.R. § 141.86(a), (b)(4).

[38] *See infra* p. 11-12.

[39] 56 Fed. Reg. 26,460, 26,466 (June 7, 1991).

[40] MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015), https://www.michigan.gov/documents/deq/deq-spotlight-Flint_water_FAQs_500946_7.pdf (stating that Flint has more than 15,000 lead service lines) (attached as Ex. 38).

[41] *Id.* § 300i.

[42] *Meghrig v. KFC Western, Inc.*, 516 U.S. 479, 486 (1996) (interpreting substantial-and-imminent-endangerment provision in RCRA).

[43] *E.g.*, *Me. People's Alliance v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006).

[44] Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991), http://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm (attached as Ex. 39); *see also* 80 Fed. Reg. 278, 290 (Jan. 5, 2015) ("Lead has been demonstrated to exert a broad array of deleterious effects on multiple organ systems."); 56 Fed. Reg. 26,460, 26,467-68 (June 7, 1991).

[45] Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014), http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm (attached as Ex. 40).

The scientific community has not identified *any* threshold of lead in blood below which there are no adverse health impacts.[46]

Increased lead exposure from drinking water is dangerous because "drinking water can make up 20 percent or more of a person's total exposure to lead."[47] For infants whose diet consists of baby formula made with drinking water, lead in drinking water can make up between forty and sixty percent of total lead exposure.[48] Lead levels in drinking water above the federal action level have been associated with an increase in the rate of individuals with elevated blood lead levels.[49] Exposure to lead-contaminated drinking water has also been associated with fetal death and reduced birth rates.[50] As EPA has recognized, "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development."[51] In short, there is no safe level of lead in drinking water.[52]

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[46] Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013), http://www.cdc.gov/biomonitoring/Lead_FactSheet.html ("No safe blood lead level has been identified.") (attached as Ex. 41).

[47] U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005), http://www.epa.gov/safewater/schools/pdfs/lead/qrg_lcr_schools.pdf (attached as Ex. 42).

[48] Lead in Drinking Water, Wisc. Dep't of Nat. Res. 2008), http://dnr.wi.gov/topic/drinkingwater/documents/forms/lead.pdf (attached as Ex. 43). Several cases have also been reported in which infant formula constituted from lead-contaminated tap water was determined to be the sole cause of childhood lead poisoning. *See, e.g.*, Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 Clinical Pediatrics (8) 380, 381 (1989) (attached as Ex. 44).

[49] Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 Environ. Health Perspect. (1) 1285-93 (2008), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569084/ (attached as Ex. 45); CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly (No. 12) 268-70 (Apr. 2, 2004), *available at* http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5312a6.htm (attached as Ex. 46).

[50] Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water,* 48 Envtl. Sci. & Tech. 739-40 (2013), *available at* http://pubs.acs.org/doi/pdf/10.1021/es4034952 (attached as Ex. 47).

[51] U.S. EPA, Basic Information about Lead in Drinking Water, *supra* note 11.

[52] *See* Email from Jennifer Crooks, U.S. EPA, to Mike Prysby, MDEQ (Feb. 26, 2015) ("[T]here are no safe levels of lead in drinking water.") (attached as Ex. 48); City of Flint Issues Lead Advisory, *supra* note 13 (recognizing that "no level of lead is considered safe"). Because no safe level of lead in blood has been identified, EPA promulgated a Maximum Contaminant Level Goal for lead in drinking water of *zero*, reflecting EPA's determination that a threshold of zero lead in drinking water is the level at which "no known or anticipated adverse effects" on human health will occur, allowing for a margin of safety. *See* 40 C.F.R. §§ 141.2, 141.51(b).

Petitioners have reason to be concerned about the health impacts of increased exposure to lead in drinking water. A recent study conducted by researchers at Flint's Hurley Medical Center found that the rate of Flint children with elevated blood lead levels is rising. An analysis of 1746 Flint children under five years old showed that the proportion of children with elevated blood lead levels has *doubled* in the time since the City changed its drinking water source.[53] The study found that the rate of elevated blood lead levels in children under fifteen months is 2.5 times greater after the switch to Flint River water than the rate before the switch.[54] The study found no corresponding statistically significant increase in the rate of elevated blood lead levels of children living in Genesee County outside of Flint.[55] Data released by the State confirm that the percentage of Flint children under sixteen with elevated blood levels has risen (from 2.37% to 3.21%) since the switch to Flint River water.[56]

This increased rate of children with elevated blood lead levels is even more alarming because the Flint community may be more at risk for elevated blood lead levels and lead poisoning than communities elsewhere in the country. Michigan ranks fifth worst in the country for harmful exposures to lead.[57] Low income is a risk factor for lead poisoning, and the proportion of families living below the poverty level in Flint is more than three times the national proportion (35.5% in Flint vs. 11.3% nationally in 2013 estimates).[58] Living in housing built before 1978 (when the federal ban on high-lead paint went into effect) is also a risk factor, because dust from lead paint continues to be a major source of lead exposure in children.[59] Nearly 90% of housing in Flint was built before

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[53] Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation), *available at* http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/ (attached as Ex. 49).

[54] *Id.*

[55] *Id.*

[56] Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press, Sept. 29, 2015, http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/state-data-flint-lead/72820798/ (attached as Ex. 50).

[57] Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013), http://www.cdc.gov/nceh/information/healthy_homes_lead.htm (attached as Ex. 51).

[58] 2009-2013 American Community Survey 5-year Estimates, 2013, *available at* http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml (enter "Flint, MI" in the box under "Community Facts," click on "Income" on left-side bar, then click "Selected Economic Characteristics" under "2013 American Community Survey") (table attached as Ex. 52 compares data from Flint, MI to Michigan and the United States).

[59] *See, e.g.*, Am. Cancer Soc'y, *Lead, Lead in the Environment,* http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/lead (last updated May 27, 2014) (characterizing lead paint as a "major" source of exposure) (attached as Ex. 53).

1978.[60] These factors show that the risks to Flint residents from lead exposure may be particularly acute.

The monitoring data showing high lead levels in Flint drinking water, combined with the well-known serious adverse health impacts of lead exposure, demonstrate "a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventive action is not taken."[61] These circumstances constitute an imminent and substantial endangerment warranting emergency federal action.[62]

IV. Neither the City nor MDEQ has acted to protect Flint residents from continuing health risks of exposure to high lead levels in drinking water

Federal emergency action is necessary because neither the City nor MDEQ has adequately addressed the danger to Flint residents from lead in their drinking water. To date, the local and state response to lead concerns has been, at best, nominal and ineffective.[63]

The state-appointed emergency manager and MDEQ allowed the City to begin using the Flint River as its water source without adequately ensuring that the system would continue to "operate and maintain optimal corrosion control treatment," as required by the SDWA.[64] The Lead and Copper Rule requires states to "review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system."[65] But as of March 28, 2014, three weeks before the City planned to start using Flint River water, the City had not even submitted an application to the State for approval to make the change.[66] A month later, MDEQ had approved the change without requiring the City to implement corrosion control measures, as required by the Lead and

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[60] 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013), https://www.michigan.gov/documents/mdch/2012AnnualDataReportOnBloodLeadLevels_419508_7.pdf (attached as Ex. 54); *see* CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977), http://www.cpsc.gov/en/Recalls/1977/CPSC-Announces-Final-Ban-On-Lead-Containing-Paint/ (attached as Ex. 55); Maj. Thomas F. Zimmerman, *The Regulation of Lead-Based Paint in Air Force Housing,* 44 Air Force L. Rev. 169, 175 (1998).

[61] H.R. Rep. No. 93-1185, 1974 U.S.C.A.A.N. 6454, 6488 (July 10, Aug. 15, 1974) (defining when an endangerment may be considered substantial).

[62] *See Trinity Am. Corp. v. U.S. E.P.A.*, 150 F.3d 389, 399 (4th Cir. 1998) (imminent and substantial endangerment found when "dangerous levels of [a] contaminant[] exist in [the] water supply," and that the contaminant "pose[s] a great risk to human health").

[63] *See id.* at 397 (explaining that "minor" and "ineffective" action by state and local authorities does not "strip EPA of its statutory emergency powers").

[64] 40 C.F.R. § 141.81(b).

[65] 40 C.F.R. § 141.81(b)(3)(iii).

[66] Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live, Mar. 28, 2014, http://www.mlive.com/news/flint/index.ssf/2014/03/state_says_flint_hasnt_applied_1.html (attached as Ex. 56).

Copper Rule.[67] When EPA inquired about what the City was doing to control corrosion, MDEQ falsely stated that the City was already operating an "Optimized Corrosion Control Program."[68] The opposite was true: as the State later admitted, the City had not implemented any corrosion control treatment measures (and still has not done so).[69]

Further, evidence indicates that the City and MDEQ are either unwilling or unable to conduct tap water monitoring for lead in compliance with federal regulations. As discussed above, statements by a Flint Utilities Administrator suggest that the City did not identify a sampling pool prior to conducting monitoring, as federal law expressly requires. Instead, the Department of Public Works "just thr[ew] out bottles everywhere just to collect as many [samples] as we c[ould]."[70] The City even asked its own employees and their "family/friends who live in the city" to participate in the sampling group.[71]

The City also may not have complied with requirements for targeting high-risk homes, including the requirement that 50% of sampled sites contain lead pipes or copper pipes with lead solder.[72] The City's Utilities Administrator conceded that the City was "not really" able to determine that every residence sampled had lead pipes, even though this was what the City affirmatively reported to MDEQ in a monitoring compliance report.[73] Further, the City's monitoring compliance report shows that the City did not meet the deadline to submit its monitoring results and did not comply with the requirement to sample the same sites across monitoring periods.[74] During the January to June 2015 monitoring period, the City initially sought to obtain 100 samples.[75] *After* the City failed to collect that number, MDEQ decided that only sixty samples were required.[76]

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[67] *See* 40 C.F.R. § 141.81(a)-(b).

[68] *See* Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015) ("The City of Flint . . . [h]as an Optimized Corrosion Control Program[.]") (attached as Ex. 57).

[69] Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015) ("Flint is not currently practicing corrosion control treatment at the [Water Treatment Plant].") (attached as Ex. 58).

[70] *See* 40 C.F.R. § 141.86(a)(1);*Thirst for Truth: Who's to Blame for Flint Water Crisis?* (ACLU of Michigan, Jul. 28, 2015), *available at* https://www.youtube.com/watch?t=9&v=LTO9irD2f0Y (statement of Michael Glasgow, Utilities Administrator).

[71] Email from Michael Glasgow (June 1, 2015) (attached as Ex. 59).

[72] 40 C.F.R. § 141.86(a)(8).

[73] *Thirst for Truth*, supra note 70 (statement of Michael Glasgow, Utilities Administrator, at 5:30-5:45).

[74] City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015) (checking "no" box in response to question asking whether City used the same sampling sites as the previous monitoring period) (attached as Ex. 60); *see* 40 C.F.R. §§ 141.86(b)(4); 141.90(a)(1).

[75] *See* Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015) (attached as Ex. 61).

[76] *Compare id.* ("We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results,

Compliance with the SDWA's monitoring requirements is critical to accurately assessing the levels of lead in Flint's water, and to ensuring implementation of the drinking water standards set forth in the Lead and Copper Rule. Although the serious apparent flaws in the City's testing procedures call into question whether the City is complying with the SDWA, both the City and MDEQ continue to maintain that Flint's water "is meeting state and federal drinking water standards."[77]

Neither the City nor MDEQ has taken measures to broadly provide an alternative, free source of safe drinking water to residents. Instead, state and local authorities have dismissed citizen concerns about lead in drinking water as "near-hysteri[cal]" and "irresponsible."[78] City officials have encouraged residents to install in-home water filters, flush their taps before using the water, and send their children to school with bottled water, all at the residents' own expense, which is alarming given that there are roughly 14,000 households in Flint with children under 18, and nearly three-quarters of the children in those households receive Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits.[79] These remedies are inadequate: filters are expensive, may clog quickly, are of varying effectiveness at removing lead, and require

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Flint's 90th percentile is over the AL for lead."), *with* City of Flint, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply, *supra* note 31, at 1 ("Revised report after conference call with DEQ staff . . . . [D]ue to population the number of samples required was reduced to 60.").

[77] Letter from MDEQ to MI State Senators 2 (Sept. 17, 2015) (attached as Ex. 62); City of Flint, *City of Flint Issues Lead Advisory, supra* note 13 ("[T]he City is in full compliance with the Federal Safe Drinking Water Act.").

[78] *Did this Michigan Town Poison its Children?*, U.S. News & World Report, Sept. 24, 2015, http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood (attached as Ex. 63); Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live, Sept. 10, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html (attached as Ex. 64). The City's statement that it will "work with [MDEQ] on implementing water optimization measures to reduce the corrosive effects of water on older pipes" by 2016 is a hollow promise given the present and continuing exposure to lead and lead's irreversible effects on human health. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live, Sept. 3, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/mayor.html (attached as Ex. 65).

[79] City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13; Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live, Sept. 25, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/flint_community_schools_asks_s.html (attached as Ex. 66); *see* factfinder.census.gov (2010 data) (enter "Flint, MI" in box under "Community Facts," then click "General Population and Housing Characteristics" under "2010 Census") (attached as Ex. 67); 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics (2013 estimate), factfinder.census.gov (enter "Flint, MI" in box under "Community Facts," then click "Poverty" on left-side bar, then click "Children Characteristics") (attached as Ex. 68).

ongoing maintenance. Pre-flushing is also imperfect, does not always eliminate lead, and may be prohibitively expensive for many families given Flint's high water rates.[80]

The City's and State's apparent lapses in regulatory compliance, and their failure to take responsibility for responding to the City's lead problems, demand federal intervention.

V. EPA should act immediately to adequately address the public health emergency created by lead in Flint drinking water

Petitioners urge EPA to take all actions necessary to abate the endangerment presented by lead in Flint's drinking water, and to inform Flint residents about the potential hazards of drinking the City's tap water. At minimum, Petitioners request that EPA:

- Immediately order the City and MDEQ to reconnect Flint's water system with water from the Detroit Water and Sewerage Department. EPA should work with the City of Flint, MDEQ, and the Detroit Water and Sewerage Department to facilitate this renewed connection as soon as possible.

- Immediately provide Flint residents with an alternative, free source of safe drinking water that meets EPA standards. This may include providing customers with free bottled water or providing (and routinely maintaining) free in-home and replacement filters that are certified to remove lead by NSF International.[81]

- Immediately order the City to advise all Flint water customers to avoid consuming unfiltered water from the City's water system. The notice should warn customers not to use unfiltered Flint water to make baby formula or for children. The notice should inform customers that if they have no alternative water source, they should flush Flint water for *a minimum* of five minutes before

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[80] Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by $35,* Michigan Live, June 1, 2014, http://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html (citing Flint bills at $140/month) (attached as Ex. 69). A state-court judge recently ruled that the Emergency Manager's decision to significantly raise water rates was unlawful. Ron Fonger, *Judge orders Flint to cut water rates 30% in sweeping injunction*, Michigan Live, Aug. 7, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_ordered_to_cut_water_rat.html (attached as Ex. 70).

[81] *See* U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011) (provision of bottled water is a "common federal response" in emergencies) (attached as Ex. 71); *cf.* 40 C.F.R. § 141.101 (allowing public water systems to use bottled water on a temporary basis "to avoid unreasonable risk to health"); U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010), http://www.epa.gov/superfund/health/conmedia/gwdocs/pdfs/610732.pdf (allowing delivery of bottled water on a temporary basis in certain circumstances in CERCLA removal or remediation actions) (attached as Ex. 72).

use. EPA should prohibit the City from charging water customers for this flushing time.

- Use its authority under 40 C.F.R. §§ 142.19 and 141.82(i) to review MDEQ's determinations concerning corrosion control requirements for the Flint water system, and issue a federal order establishing the optimal corrosion control treatment requirements for the Flint water system and requiring Flint to immediately comply with these requirements.

- Order the City to conduct continued monitoring for lead and copper in six-month periods in accordance with the procedures set forth in 40 C.F.R. § 141.86. EPA should directly oversee the City's monitoring by ordering the City to submit a Quality Assurance Project Plan (QAPP) to ensure that all information, sample collection, analytical data and resulting decisions are technically sound, scientifically valid, and properly administered. EPA must approve the City's QAPP before the City conducts any additional monitoring. EPA should prohibit the City from conducting reduced monitoring under 40 C.F.R. § 141.86(d)(4) for at least five years.

- Order the City to comply with the public education and supplemental monitoring requirements in 40 C.F.R. § 141.85, including but not limited to immediately notifying consumers of the results of tests completed at their homes or places of business, and providing the public education, monitoring, and notification established in those rules.

- Order any other additional relief that EPA determines is "necessary to protect the health" of Flint residents from lead contamination in drinking water.

VI. Conclusion

For the foregoing reasons, Petitioners respectfully request that EPA take the actions necessary to abate the imminent and substantial endangerment to Flint residents' health from lead contamination in their drinking water.

Dated: October 1, 2015

Respectfully Submitted,

/s/ Pastor Allen Overton
Pastor Allen Overton
COALITION FOR CLEAN WATER

/s/ Pastor Alfred Harris
Pastor Alfred Harris
CONCERNED PASTORS FOR SOCIAL ACTION
2200 Forrest Hill
Flint, Michigan 48504
(810) 394-6787

/s/ Melissa Mays
Melissa Mays
LeeAnne Walters
WATER YOU FIGHTING FOR

/s/ Claire McClinton
Claire McClinton
DEMOCRACY DEFENSE LEAGUE WATER TASK FORCE

/s/ Marc Edwards
Marc Edwards, CEE
Siddhartha Roy
FLINT WATER STUDY TEAM

/s/ Dawn Kettinger
Dawn Kettinger
MICHIGAN NURSES ASSOCIATION

/s/ Yvonne M. White
Yvonne M. White
NAACP – Michigan State Conference

/s/ Jeffrey L. Edison
Jeffrey L. Edison
MICHIGAN CHAPTER OF THE NATIONAL CONFERENCE OF BLACK LAWYERS

/s/ Brooke Tucker
Brooke Tucker
Michael Steinberg
AMERICAN CIVIL LIBERTIES UNION OF MICHIGAN
2966 Woodward Ave.
Detroit, MI 48201
(313) 578-6800

/s/ Dimple Chaudhary
Dimple Chaudhary
Anjali Waikar
Sarah C. Tallman
Evan Feinauer
NATURAL RESOURCES DEFENSE COUNCIL
20 N. Wacker Drive, Suite 1600
Chicago, IL 60606
(312) 663-9900

Subject:	RDS - Pre-Brief for Flint Water Media Conference Call
Location:	By Phone
Start:	Fri 10/2/2015 10:00 AM
End:	Fri 10/2/2015 10:10 AM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	GovCalendar
Required Attendees:	Wyant, Dan (DEQ); Lyon, Nick (DCH); Wells, Eden (DHHS); Grijalva, Nancy (DHHS); Thelen, Mary Beth (DEQ)

From: Tallman, Sarah <stallman@nrdc.org>
Sent: Thursday, October 01, 2015 6:21 PM
To: Wyant, Dan (DEQ)
Subject: Safe Drinking Water Act Emergency Petition
Attachments: Emergency SDWA Petition.pdf

Director Wyant:

Please find attached a copy of a Petition for Emergency Action under Section 1431 of the Safe Drinking Water Act concerning lead contamination in Flint, Michigan drinking water, served today on EPA Administrator Gina McCarthy. The petition and a disk containing the exhibits are being sent by FedEx Priority Overnight. A copy is also being sent to Mayor Dayne Walling.

Regards,

Sarah Tallman

SARAH TALLMAN

NATURAL RESOURCES
DEFENSE COUNCIL

20 N. WACKER DRIVE, SUITE 1600
CHICAGO, IL 60606
T 312.651.7918
STALLMAN@NRDC.ORG
NRDC.ORG

BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Petition for Emergency Action under the Safe Drinking Water Act, 42 U.S.C. § 300i, to Abate the Imminent and Substantial Endangerment to Flint, Michigan Residents from Lead Contamination in Drinking Water

---

Submitted on Behalf of Petitioners Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and the Natural Resources Defense Council

October 1, 2015

Notice of Petition

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, DC 20460

Susan Hedman
Regional Administrator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604-3507

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17. City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015)

18. H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013)

19. Complaint, *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015)

20. Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live (Aug. 31, 2015)

21. Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live (Aug. 31, 2015)

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29. *Lead testing results for water sampled by residents,* Flint Water Study (last visited Sept. 28, 2015)

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36. U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010)

37. Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008)

38. MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015)

39. Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991)

40. Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014)

41. Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013)

42. U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005)

43. Lead in Drinking Water, Wisc. Dep't of Nat. Res. (2008)

44. Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 Clinical Pediatrics (8) (1989)

45. Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 Environ. Health Perspect. (1) (2008)

46. CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly 268 (Apr. 2, 2004)

47. Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water,* 48 Envtl. Sci. & Tech. 739 (2013)

48. Email from Jennifer Crooks, U.S. EPA, to Mike Prysby (Feb. 26, 2015)

49. Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation)

50. Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press (Sept. 29, 2015)

51. Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013)

52. American FactFinder, 2009-2013 American Community Survey 5-year Estimates, Flint, Michigan and State of Michigan

53. American Cancer Society, *Lead, Lead in the Environment* (last updated May 27, 2014)

54. 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013)

55. CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977)

56. Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live (Mar. 28, 2014)

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59. Email from Michael Glasgow (June 1, 2015)

60. City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015)

61. Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015)

62. Letter from MDEQ to MI State Senators (Sept. 17, 2015)

63. *Did this Michigan Town Poison its Children?*, U.S. News & World Report (Sept. 24, 2015)

64. Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live (Sept. 10, 2015)

65. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live (Sept. 3, 2015)

66. Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live (Sept. 25, 2015)

67. U.S. Census Bureau, American FactFinder, 2010 Demographic Profile Data, Flint Michigan

68. 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics, Flint, Michigan

69. Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by $35,* Michigan Live (June 1, 2014)

70. Ron Fonger, *Judge orders Flint to cut water rates 35 percent in sweeping injunction*, Michigan Live (Aug. 7, 2015)

71. U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011)

72. U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010)

The residents of Flint, Michigan have been and continue to be exposed to dangerous levels of lead in their drinking water. Monitoring results confirm that, in many instances, these levels are well above the threshold set by the U.S. Environmental Protection Agency (EPA) that triggers mandatory corrective action by public water systems. The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have failed to address this public health crisis, despite their awareness of these monitoring results and data showing increasing blood lead levels in children residing in Flint.

The Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and Natural Resources Defense Council (collectively, Petitioners) petition EPA to use its emergency powers under the Safe Drinking Water Act (SDWA or the Act), 42 U.S.C. § 300i, to take action to abate the imminent and substantial endangerment to human health caused by lead contamination in Flint's drinking water. As Petitioners demonstrate below, this contamination meets the SDWA requirements for immediate action by EPA and requires a comprehensive federal response.

I. Background

Water-quality problems have plagued Flint's water system since at least April 2014, when the City began using the Flint River as its water source after deciding not to continue purchasing water from Lake Huron through the Detroit Water and Sewerage Department, as it had done for nearly fifty years.[1] In the eighteen months since the switch to Flint River water, the City's drinking water has been at times discolored, foul smelling, and "laden with sediments."[2] Residents report that they have experienced hair loss, skin rashes, and vomiting after drinking the water.[3] In the summer of 2014, the City was forced to issue several boil-water notices after tap water tested positive for total coliform bacteria, which

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[1] *See* Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live, Apr. 25, 2014, http://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html (attached as Ex. 1); Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Dep't (Mar. 7, 2014) (explaining that the City "has actively pursued using the Flint River as a temporary water source" instead of accepting Detroit's offer to "provide[] Flint with the option of continuing to purchase water from DWSD") (attached as Ex. 2).

[2] *See* Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People's Skin to Erupt in Rashes and Hair to Fall Out*, The Nation, July 16, 2015, http://www.thenation.com/article/in-flint-michigan-overpriced-water-is-causing-peoples-skin-to-erupt-and-hair-to-fall-out/ (attached as Ex. 3); Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post, July 10, 2015, http://www.huffingtonpost.com/wenonah-hauter/flints-brown-water-blues_b_7765132.html (attached as Ex. 4).

[3] Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America, Apr. 3, 2015, http://america.aljazeera.com/articles/2015/4/3/flint-residents-find-state-water-control-hard-to-swallow.html (attached as Ex. 5).

suggested a possible "pathway for pathogens and fecal contamination" to enter the water system.[4]

The City's subsequent treatment of the water to kill disease-carrying pathogens resulted in elevated levels of total trihalomethanes (TTHM), a byproduct of disinfection.[5] Drinking water with TTHM levels that exceed the federal limit can cause "liver, kidney, or central nervous system problems and increased risk of cancer."[6] In response to the City's water problems, local hospitals, schools, and museums began using bottled water instead of tap water.[7] Some grocery stores reduced the price of bottled water and "sponsored community giveaways of bottled water to low income residents."[8]

Flint River water is also highly corrosive, causing dangerous amounts of lead to leach out of pipes and into the City's water system.[9] Recent sampling has shown that lead is present in Flint's water system at levels well above 15 parts per billion (ppb), the "action level" for lead under the SDWA.[10] These high lead levels put residents at risk of increased lead exposure, which can cause a broad array of serious, irreversible health effects, including cognitive impairment, decreased red blood cell survival, kidney damage, coronary heart disease, and impaired reproductive function.[11]

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[4] Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live, Sept. 5, 2014, http://www.mlive.com/news/flint/index.ssf/2014/09/flint_issues_boil_water_adviso.html (attached as Ex. 6).

[5] Robin Erb, *Who wants to drink Flint's water?*, Detroit Free Press, Jan. 23, 2015, http://www.freep.com/story/news/local/michigan/2015/01/22/water-woes-latest-hit-flint/22193291/ (attached as Ex. 7); Mich. Dep't of Envtl. Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014) (attached as Ex. 8).

[6] U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm (last updated Dec. 13, 2013) (attached as Ex. 9); *see* 40 C.F.R. § 141.64(b).

[7] Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015), ECF No. 6 (attached as Ex. 10).

[8] *Id.*

[9] Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015), http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/ (attached as Ex. 11); Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015), http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/ (attached as Ex. 12). The river water is so corrosive that in October 2014, a local GM engine plant decided to switch back to Lake Huron water to avoid damage to equipment at the plant from corrosion. Brianna Owczarzak, *GM says no to Flint water*, WNEM, Oct. 14, 2014, http://www.wnem.com/story/26785625/gm-says-no-to-flint-water (attached as Ex. 13).

[10] 40 C.F.R. § 141.80(c)(1).

[11] *See, e.g.*, U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013) (attached as Ex. 14) (summarizing health effects of lead exposure); U.S. EPA, Basic

The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have been aware of independent monitoring results showing exceedingly high lead levels in the City's drinking water for months.[12] Despite increasing public concern about the safety of the City's drinking water, neither the City nor MDEQ has taken the actions necessary to meaningfully address the problem. The City has not implemented *any* measures to treat the highly corrosive Flint River water to reduce the amount of lead leaching from service pipes.[13] And MDEQ refuses to use its enforcement authority under the SDWA or state law to require Flint to employ corrosion control measures or provide alternative safe water supplies.[14]

When state and local authorities fail to adequately address a public health crisis, the SDWA empowers EPA to act. Section 1431 of the Act vests EPA with broad emergency authority to address endangerments to public health from contaminated drinking water. The EPA Administrator may use these emergency powers "upon receipt of information that a contaminant which is present in or is likely to enter a public water system . . . may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons."[15] Once the Administrator receives this information, she may "take such actions as [s]he may deem necessary in order to protect [public] health."[16] These actions "may include (but shall not be limited to) . . . issuing such orders as may be necessary to protect the health of persons who are or may be users of such system (including travelers), including

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Information About Lead in Drinking Water, http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm (last updated June 26, 2015) (explaining that "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development," and that "[a]dults who drink this water over many years could develop kidney problems or high blood pressure") (attached as Ex. 15); *see also* National Ambient Air Quality Standards for Lead, 80 Fed. Reg. 278, 290 (Jan. 5, 2015).

[12] *See, e.g.*, Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015) (describing "[b]ig worries" for high lead test results at a Flint resident's home) (attached as Ex. 16).

[13] The City's plan to implement corrosion control measures within thirty to sixty days is inadequate to address the ongoing endangerment. *See* City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015), https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/ (attached as Ex. 17).

[14] *See* Mich. Comp. Laws Ann. §§ 325.1015(1) ("When considered necessary for protection of the public health, the department shall notify a supplier of water of the need to make changes in operations, to provide treatment, [or] to make structural changes in existing systems . . . as necessary to produce and distribute an adequate quantity of water meeting the state drinking water standards."), (3) ("If a public water supply poses an imminent hazard to the public health, the department may issue an emergency order immediately, . . . requiring such action as the department determines is necessary to protect the public health.").

[15] 42 U.S.C. § 300i(a).

[16] *Id.*

orders requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment."[17] EPA has, in the past, used its emergency powers to issue orders to provide alternative safe water sources to community members, require public notice of the drinking water hazard, require contributors to the hazard to treat or otherwise mitigate the hazardous conditions, and require additional monitoring and data-collection activities.[18]

As Petitioners demonstrate below, the lead contamination in Flint's drinking water meets the prerequisites that authorize EPA to take emergency action under the SDWA.

II. Interests of Petitioners

Petitioners are community groups and advocacy organizations seeking safe and clean water for all residents in Flint. For instance, the Coalition for Clean Water (Coalition), which includes Concerned Pastors for Social Action, Water You Fighting For, and Democracy Defense League Water Task Force, among other community members, has urged city and state officials for months to address Flint's water-quality problems. The Coalition filed a lawsuit in June 2015 in the Circuit Court for the County of Genesee seeking declaratory, injunctive, and other relief relating to Flint's water-quality problems.[19] In August 2015, Food and Water Watch, Water You Fighting For, and the Coalition for Clean Water collected more than 26,000 signatures on a petition to Mayor Dayne Walling asking the City to end its use of the Flint River as a drinking water source.[20] Community members have also organized marches[21] and met with City Council[22] to raise concerns about the quality of Flint's drinking water. These advocacy activities fueled awareness and concern

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[17] *Id.*

[18] *See* H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013), http://www.epa.gov/region10/pdf/sites/yakimagw/consent_order_yakima_valley_dairies_march2013.pdf (attached as Ex. 18).

[19] Compl., *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015) (attached as Ex. 19).

[20] Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/groups_delivering_26000_signat.html#incart_river (attached as Ex. 20); Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_mayor_accepts_petitions.html (attached as Ex. 21).

[21] William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live, Feb. 14, 2015, http://www.mlive.com/news/flint/index.ssf/2015/02/flint_residents_protest_citys.html (attached as Ex. 22).

[22] AP, *Flint city councilman: 'We got bad water,'* Detroit Free Press, Jan. 14, 2015, http://www.freep.com/story/news/local/michigan/2015/01/14/flint-water-resident-complaints/21743465/ (attached as Ex. 23).

among residents and some elected officials in Flint,[23] but have not resulted in any comprehensive action by the City or the State.

III. Lead present in and likely to continue to enter Flint's water system presents an imminent and substantial endangerment to human health

A. Lead is present in and likely to continue to enter Flint's water system

Flint's residents face ongoing endangerment from lead in their drinking water. Recent sampling data show that dangerously high levels of lead are present in and will likely continue to enter Flint's water system.[24] In August and September 2015, Dr. Marc Edwards, a water resources engineering professor at Virginia Tech, tested 252 drinking water samples collected from Flint residences. Edwards found that *ten percent* of these samples had lead levels of 25 ppb or more, substantially in excess of the federal action level of 15 ppb.[25] Several samples exceeded 100 ppb, and one sample exceeded 1000 ppb.[26] Edwards' sampling data show that lead—a contaminant under the SDWA[27]—is present in Flint's water system.

The results of Edwards' testing are even more concerning because the sampling did not target high-risk residences, as the City is required to do under the Lead and Copper Rule.[28] Because lead levels in a water system are not evenly distributed, EPA requires monitoring for lead under the SDWA to target high-risk residences, "to better ensure that high levels of lead are detected and that the system institutes treatment that provides

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[23] *See* Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015) (attached as Ex. 24); Letter from U.S. Representative Dan Kildee, U.S. Representative, to Adm'r Gina McCarthy, U.S. EPA, and Director Dan Wyant, MDEQ (Sept. 9, 2015) (attached as Ex. 25).

[24] Flint's water system is a "public water system" for purposes of the SDWA because it provides water for human consumption to more than twenty-five individuals. 42 U.S.C. § 300f(4).

[25] *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015), http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/ (attached as Ex. 26); Siddhartha Roy, Flint Water Study Updates for the Citizens of Flint (Sept. 15, 2015) (attached as Ex. 27); Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live, Sept. 15, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html (attached as Ex. 28).

[26] *Lead testing results for water sampled by residents,* Flint Water Study, http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/ (attached as Ex. 29).

[27] *See* 42 U.S.C. § 300f(6).

[28] 40 C.F.R. § 141.86(a)(3)-(5); 56 Fed. Reg. 26,460, 26,514 (June 7, 1991) (adopting approach that "require[s] water systems to collect samples from high-risk residences that are most likely to have lead problems").

uniform and adequate levels of public health protection."[29] Because targeting high-risk residences "means that the detected levels will likely be higher than if sampling were randomly distributed,"[30] Edwards' data showing a 90th percentile lead level of 25 ppb is particularly alarming given that his sampling protocol would be expected to produce *lower* results than the targeted sampling protocol mandated by the Lead and Copper Rule.

The City's monitoring data confirm that some Flint residents' water contains lead at concentrations above the federal action level. Several samples collected by the City showed lead levels as high as 397 ppb, 25 times the action level.[31] Although the City claims that its data show that the 90th percentile lead concentration is lower than the 90th percentile in Edwards' sampling pool, these differences may be attributable to the sampling methods employed by the City. For instance, the City instructed residents to pre-flush their water for "at least 5 minutes" before collecting the sample.[32] Pre-flushing has the effect of reducing the amount of lead in the sample, which is why one of the key steps residents can take to reduce their lead exposure following discovery of a lead problem is to flush their taps prior to consuming tap water.[33] Pre-flushing in sampling results in "significant underestimation of lead levels in drinking water."[34] Pre-flushing is not included in the collection procedures EPA recommends,[35] and is contrary to the Lead and Copper Rule's intent to use worst-case lead and copper sampling data.[36] Evidence also shows that in the January to June 2015 monitoring period, the City did not use a pre-developed sampling pool that targeted high-

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[29] 56 Fed. Reg. at 26,514.

[30] *Id.*

[31] *See* Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ (Mar. 18, 2015) (referring to sample with lead level at 397 ppb) (attached as Ex. 30); Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015) (referring to samples showing lead levels 22 ppb and 40 ppb) (attached as Ex. 31); Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015) (lead level at 104 ppb) (attached as Ex. 32); *see also* Mich. Dep't of Envtl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015) (showing six samples with lead levels over the action level (attached as Ex. 33).

[32] Drinking Water Lead & Copper Sampling Instructions, *available at* http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf (attached as Ex. 34).

[33] Memorandum from Miguel A. Del Toral, Regulations Mgr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015) (attached as Ex. 35).

[34] *Id.*

[35] U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010) (attached as Ex. 36).

[36] See Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008) ("[W]e believe that [pre-flushing] goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowners in the sample.") (attached as Ex. 37).

risk residences and did not sample sites consistently across monitoring periods.[37] This likewise may have caused the City's sampling results to underrepresent the 90th percentile lead level in the water system.[38]

The lead contamination in Flint's water is likely to continue. As EPA has explained, "[t]he amount of lead in drinking water depends heavily on the corrosivity of the water,"[39] and testing has shown that Flint River water is highly corrosive. Moreover, the City has no treatment program in place to control the corrosive effects of the water on the City's thousands of lead service lines.[40]

B. Lead in drinking water presents an imminent and substantial endangerment to Flint residents

The endangerment to Flint residents from lead in drinking water is both "imminent" and "substantial."[41] The endangerment to community members' health is imminent because the threat "is present *now*."[42] Highly corrosive water in the Flint River has been flowing through lead service lines in Flint's water system for more than a year without any corrosion control treatment, and sampling has already shown the existence of dangerously high levels of lead in residents' tap water.

The seriousness of the potential harms from lead exposure renders the endangerment "substantial" for purposes of the SDWA.[43] The poisonous effects of lead on "virtually every system in the body," and particularly on the developing brains of young children, are well documented.[44] "Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement," effects that are irreversible.[45]

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[37] *See infra* p. 11 & nn. 70-74; 40 C.F.R. § 141.86(a), (b)(4).

[38] *See infra* p. 11-12.

[39] 56 Fed. Reg. 26,460, 26,466 (June 7, 1991).

[40] MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015), https://www.michigan.gov/documents/deq/deq-spotlight-Flint_water_FAQs_500946_7.pdf (stating that Flint has more than 15,000 lead service lines) (attached as Ex. 38).

[41] *Id.* § 300i.

[42] *Meghrig v. KFC Western, Inc.*, 516 U.S. 479, 486 (1996) (interpreting substantial-and-imminent-endangerment provision in RCRA).

[43] *E.g.*, *Me. People's Alliance v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006).

[44] Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991), http://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm (attached as Ex. 39); *see also* 80 Fed. Reg. 278, 290 (Jan. 5, 2015) ("Lead has been demonstrated to exert a broad array of deleterious effects on multiple organ systems."); 56 Fed. Reg. 26,460, 26,467-68 (June 7, 1991).

[45] Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014), http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm (attached as Ex. 40).

The scientific community has not identified *any* threshold of lead in blood below which there are no adverse health impacts.[46]

Increased lead exposure from drinking water is dangerous because "drinking water can make up 20 percent or more of a person's total exposure to lead."[47] For infants whose diet consists of baby formula made with drinking water, lead in drinking water can make up between forty and sixty percent of total lead exposure.[48] Lead levels in drinking water above the federal action level have been associated with an increase in the rate of individuals with elevated blood lead levels.[49] Exposure to lead-contaminated drinking water has also been associated with fetal death and reduced birth rates.[50] As EPA has recognized, "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development."[51] In short, there is no safe level of lead in drinking water.[52]

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[46] Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013), http://www.cdc.gov/biomonitoring/Lead_FactSheet.html ("No safe blood lead level has been identified.") (attached as Ex. 41).

[47] U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005), http://www.epa.gov/safewater/schools/pdfs/lead/qrg_lcr_schools.pdf (attached as Ex. 42).

[48] Lead in Drinking Water, Wisc. Dep't of Nat. Res. 2008), http://dnr.wi.gov/topic/drinkingwater/documents/forms/lead.pdf (attached as Ex. 43). Several cases have also been reported in which infant formula constituted from lead-contaminated tap water was determined to be the sole cause of childhood lead poisoning. *See, e.g.*, Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 Clinical Pediatrics (8) 380, 381 (1989) (attached as Ex. 44).

[49] Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 Environ. Health Perspect. (1) 1285-93 (2008), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569084/ (attached as Ex. 45); CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly (No. 12) 268-70 (Apr. 2, 2004), *available at* http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5312a6.htm (attached as Ex. 46).

[50] Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water,* 48 Envtl. Sci. & Tech. 739-40 (2013), *available at* http://pubs.acs.org/doi/pdf/10.1021/es4034952 (attached as Ex. 47).

[51] U.S. EPA, Basic Information about Lead in Drinking Water, *supra* note 11.

[52] *See* Email from Jennifer Crooks, U.S. EPA, to Mike Prysby, MDEQ (Feb. 26, 2015) ("[T]here are no safe levels of lead in drinking water.") (attached as Ex. 48); City of Flint Issues Lead Advisory, *supra* note 13 (recognizing that "no level of lead is considered safe"). Because no safe level of lead in blood has been identified, EPA promulgated a Maximum Contaminant Level Goal for lead in drinking water of *zero*, reflecting EPA's determination that a threshold of zero lead in drinking water is the level at which "no known or anticipated adverse effects" on human health will occur, allowing for a margin of safety. *See* 40 C.F.R. §§ 141.2, 141.51(b).

Petitioners have reason to be concerned about the health impacts of increased exposure to lead in drinking water. A recent study conducted by researchers at Flint's Hurley Medical Center found that the rate of Flint children with elevated blood lead levels is rising. An analysis of 1746 Flint children under five years old showed that the proportion of children with elevated blood lead levels has *doubled* in the time since the City changed its drinking water source.[53] The study found that the rate of elevated blood lead levels in children under fifteen months is 2.5 times greater after the switch to Flint River water than the rate before the switch.[54] The study found no corresponding statistically significant increase in the rate of elevated blood lead levels of children living in Genesee County outside of Flint.[55] Data released by the State confirm that the percentage of Flint children under sixteen with elevated blood levels has risen (from 2.37% to 3.21%) since the switch to Flint River water.[56]

This increased rate of children with elevated blood lead levels is even more alarming because the Flint community may be more at risk for elevated blood lead levels and lead poisoning than communities elsewhere in the country. Michigan ranks fifth worst in the country for harmful exposures to lead.[57] Low income is a risk factor for lead poisoning, and the proportion of families living below the poverty level in Flint is more than three times the national proportion (35.5% in Flint vs. 11.3% nationally in 2013 estimates).[58] Living in housing built before 1978 (when the federal ban on high-lead paint went into effect) is also a risk factor, because dust from lead paint continues to be a major source of lead exposure in children.[59] Nearly 90% of housing in Flint was built before

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[53] Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation), *available at* http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/ (attached as Ex. 49).

[54] *Id.*

[55] *Id.*

[56] Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press, Sept. 29, 2015, http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/state-data-flint-lead/72820798/ (attached as Ex. 50).

[57] Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013), http://www.cdc.gov/nceh/information/healthy_homes_lead.htm (attached as Ex. 51).

[58] 2009-2013 American Community Survey 5-year Estimates, 2013, *available at* http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml (enter "Flint, MI" in the box under "Community Facts," click on "Income" on left-side bar, then click "Selected Economic Characteristics" under "2013 American Community Survey") (table attached as Ex. 52 compares data from Flint, MI to Michigan and the United States).

[59] *See, e.g.*, Am. Cancer Soc'y, *Lead, Lead in the Environment,* http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/lead (last updated May 27, 2014) (characterizing lead paint as a "major" source of exposure) (attached as Ex. 53).

1978.[60] These factors show that the risks to Flint residents from lead exposure may be particularly acute.

The monitoring data showing high lead levels in Flint drinking water, combined with the well-known serious adverse health impacts of lead exposure, demonstrate "a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventive action is not taken."[61] These circumstances constitute an imminent and substantial endangerment warranting emergency federal action.[62]

IV. Neither the City nor MDEQ has acted to protect Flint residents from continuing health risks of exposure to high lead levels in drinking water

Federal emergency action is necessary because neither the City nor MDEQ has adequately addressed the danger to Flint residents from lead in their drinking water. To date, the local and state response to lead concerns has been, at best, nominal and ineffective.[63]

The state-appointed emergency manager and MDEQ allowed the City to begin using the Flint River as its water source without adequately ensuring that the system would continue to "operate and maintain optimal corrosion control treatment," as required by the SDWA.[64] The Lead and Copper Rule requires states to "review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system."[65] But as of March 28, 2014, three weeks before the City planned to start using Flint River water, the City had not even submitted an application to the State for approval to make the change.[66] A month later, MDEQ had approved the change without requiring the City to implement corrosion control measures, as required by the Lead and

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[60] 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013), https://www.michigan.gov/documents/mdch/2012AnnualDataReportOnBloodLeadLevels_419508_7.pdf (attached as Ex. 54); *see* CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977), http://www.cpsc.gov/en/Recalls/1977/CPSC-Announces-Final-Ban-On-Lead-Containing-Paint/ (attached as Ex. 55); Maj. Thomas F. Zimmerman, *The Regulation of Lead-Based Paint in Air Force Housing,* 44 Air Force L. Rev. 169, 175 (1998).

[61] H.R. Rep. No. 93-1185, 1974 U.S.C.A.A.N. 6454, 6488 (July 10, Aug. 15, 1974) (defining when an endangerment may be considered substantial).

[62] *See Trinity Am. Corp. v. U.S. E.P.A.*, 150 F.3d 389, 399 (4th Cir. 1998) (imminent and substantial endangerment found when "dangerous levels of [a] contaminant[] exist in [the] water supply," and that the contaminant "pose[s] a great risk to human health").

[63] *See id.* at 397 (explaining that "minor" and "ineffective" action by state and local authorities does not "strip EPA of its statutory emergency powers").

[64] 40 C.F.R. § 141.81(b).

[65] 40 C.F.R. § 141.81(b)(3)(iii).

[66] Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live, Mar. 28, 2014, http://www.mlive.com/news/flint/index.ssf/2014/03/state_says_flint_hasnt_applied_1.html (attached as Ex. 56).

Copper Rule.[67] When EPA inquired about what the City was doing to control corrosion, MDEQ falsely stated that the City was already operating an "Optimized Corrosion Control Program."[68] The opposite was true: as the State later admitted, the City had not implemented any corrosion control treatment measures (and still has not done so).[69]

Further, evidence indicates that the City and MDEQ are either unwilling or unable to conduct tap water monitoring for lead in compliance with federal regulations. As discussed above, statements by a Flint Utilities Administrator suggest that the City did not identify a sampling pool prior to conducting monitoring, as federal law expressly requires. Instead, the Department of Public Works "just thr[ew] out bottles everywhere just to collect as many [samples] as we c[ould]."[70] The City even asked its own employees and their "family/friends who live in the city" to participate in the sampling group.[71]

The City also may not have complied with requirements for targeting high-risk homes, including the requirement that 50% of sampled sites contain lead pipes or copper pipes with lead solder.[72] The City's Utilities Administrator conceded that the City was "not really" able to determine that every residence sampled had lead pipes, even though this was what the City affirmatively reported to MDEQ in a monitoring compliance report.[73] Further, the City's monitoring compliance report shows that the City did not meet the deadline to submit its monitoring results and did not comply with the requirement to sample the same sites across monitoring periods.[74] During the January to June 2015 monitoring period, the City initially sought to obtain 100 samples.[75] *After* the City failed to collect that number, MDEQ decided that only sixty samples were required.[76]

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[67] *See* 40 C.F.R. § 141.81(a)-(b).

[68] *See* Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015) ("The City of Flint . . . [h]as an Optimized Corrosion Control Program[.]") (attached as Ex. 57).

[69] Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015) ("Flint is not currently practicing corrosion control treatment at the [Water Treatment Plant].") (attached as Ex. 58).

[70] *See* 40 C.F.R. § 141.86(a)(1);*Thirst for Truth: Who's to Blame for Flint Water Crisis?* (ACLU of Michigan, Jul. 28, 2015), *available at* https://www.youtube.com/watch?t=9&v=LTO9irD2f0Y (statement of Michael Glasgow, Utilities Administrator).

[71] Email from Michael Glasgow (June 1, 2015) (attached as Ex. 59).

[72] 40 C.F.R. § 141.86(a)(8).

[73] *Thirst for Truth*, supra note 70 (statement of Michael Glasgow, Utilities Administrator, at 5:30-5:45).

[74] City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015) (checking "no" box in response to question asking whether City used the same sampling sites as the previous monitoring period) (attached as Ex. 60); *see* 40 C.F.R. §§ 141.86(b)(4); 141.90(a)(1).

[75] *See* Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015) (attached as Ex. 61).

[76] *Compare id.* ("We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results,

Compliance with the SDWA's monitoring requirements is critical to accurately assessing the levels of lead in Flint's water, and to ensuring implementation of the drinking water standards set forth in the Lead and Copper Rule. Although the serious apparent flaws in the City's testing procedures call into question whether the City is complying with the SDWA, both the City and MDEQ continue to maintain that Flint's water "is meeting state and federal drinking water standards."[77]

Neither the City nor MDEQ has taken measures to broadly provide an alternative, free source of safe drinking water to residents. Instead, state and local authorities have dismissed citizen concerns about lead in drinking water as "near-hysteri[cal]" and "irresponsible."[78] City officials have encouraged residents to install in-home water filters, flush their taps before using the water, and send their children to school with bottled water, all at the residents' own expense, which is alarming given that there are roughly 14,000 households in Flint with children under 18, and nearly three-quarters of the children in those households receive Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits.[79] These remedies are inadequate: filters are expensive, may clog quickly, are of varying effectiveness at removing lead, and require

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Flint's 90th percentile is over the AL for lead."), *with* City of Flint, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply, *supra* note 31, at 1 ("Revised report after conference call with DEQ staff . . . . [D]ue to population the number of samples required was reduced to 60.").

[77] Letter from MDEQ to MI State Senators 2 (Sept. 17, 2015) (attached as Ex. 62); City of Flint, *City of Flint Issues Lead Advisory, supra* note 13 ("[T]he City is in full compliance with the Federal Safe Drinking Water Act.").

[78] *Did this Michigan Town Poison its Children?*, U.S. News & World Report, Sept. 24, 2015, http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood (attached as Ex. 63); Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live, Sept. 10, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html (attached as Ex. 64). The City's statement that it will "work with [MDEQ] on implementing water optimization measures to reduce the corrosive effects of water on older pipes" by 2016 is a hollow promise given the present and continuing exposure to lead and lead's irreversible effects on human health. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live, Sept. 3, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/mayor.html (attached as Ex. 65).

[79] City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13; Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live, Sept. 25, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/flint_community_schools_asks_s.html (attached as Ex. 66); *see* factfinder.census.gov (2010 data) (enter "Flint, MI" in box under "Community Facts," then click "General Population and Housing Characteristics" under "2010 Census") (attached as Ex. 67); 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics (2013 estimate), factfinder.census.gov (enter "Flint, MI" in box under "Community Facts," then click "Poverty" on left-side bar, then click "Children Characteristics") (attached as Ex. 68).

ongoing maintenance. Pre-flushing is also imperfect, does not always eliminate lead, and may be prohibitively expensive for many families given Flint's high water rates.[80]

The City's and State's apparent lapses in regulatory compliance, and their failure to take responsibility for responding to the City's lead problems, demand federal intervention.

V. EPA should act immediately to adequately address the public health emergency created by lead in Flint drinking water

Petitioners urge EPA to take all actions necessary to abate the endangerment presented by lead in Flint's drinking water, and to inform Flint residents about the potential hazards of drinking the City's tap water. At minimum, Petitioners request that EPA:

- Immediately order the City and MDEQ to reconnect Flint's water system with water from the Detroit Water and Sewerage Department. EPA should work with the City of Flint, MDEQ, and the Detroit Water and Sewerage Department to facilitate this renewed connection as soon as possible.

- Immediately provide Flint residents with an alternative, free source of safe drinking water that meets EPA standards. This may include providing customers with free bottled water or providing (and routinely maintaining) free in-home and replacement filters that are certified to remove lead by NSF International.[81]

- Immediately order the City to advise all Flint water customers to avoid consuming unfiltered water from the City's water system. The notice should warn customers not to use unfiltered Flint water to make baby formula or for children. The notice should inform customers that if they have no alternative water source, they should flush Flint water for *a minimum* of five minutes before

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[80] Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by $35,* Michigan Live, June 1, 2014, http://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html (citing Flint bills at $140/month) (attached as Ex. 69). A state-court judge recently ruled that the Emergency Manager's decision to significantly raise water rates was unlawful. Ron Fonger, *Judge orders Flint to cut water rates 30% in sweeping injunction*, Michigan Live, Aug. 7, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_ordered_to_cut_water_rat.html (attached as Ex. 70).

[81] *See* U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011) (provision of bottled water is a "common federal response" in emergencies) (attached as Ex. 71); *cf.* 40 C.F.R. § 141.101 (allowing public water systems to use bottled water on a temporary basis "to avoid unreasonable risk to health"); U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010), http://www.epa.gov/superfund/health/conmedia/gwdocs/pdfs/610732.pdf (allowing delivery of bottled water on a temporary basis in certain circumstances in CERCLA removal or remediation actions) (attached as Ex. 72).

use. EPA should prohibit the City from charging water customers for this flushing time.

- Use its authority under 40 C.F.R. §§ 142.19 and 141.82(i) to review MDEQ's determinations concerning corrosion control requirements for the Flint water system, and issue a federal order establishing the optimal corrosion control treatment requirements for the Flint water system and requiring Flint to immediately comply with these requirements.

- Order the City to conduct continued monitoring for lead and copper in six-month periods in accordance with the procedures set forth in 40 C.F.R. § 141.86. EPA should directly oversee the City's monitoring by ordering the City to submit a Quality Assurance Project Plan (QAPP) to ensure that all information, sample collection, analytical data and resulting decisions are technically sound, scientifically valid, and properly administered. EPA must approve the City's QAPP before the City conducts any additional monitoring. EPA should prohibit the City from conducting reduced monitoring under 40 C.F.R. § 141.86(d)(4) for at least five years.

- Order the City to comply with the public education and supplemental monitoring requirements in 40 C.F.R. § 141.85, including but not limited to immediately notifying consumers of the results of tests completed at their homes or places of business, and providing the public education, monitoring, and notification established in those rules.

- Order any other additional relief that EPA determines is "necessary to protect the health" of Flint residents from lead contamination in drinking water.

VI. Conclusion

For the foregoing reasons, Petitioners respectfully request that EPA take the actions necessary to abate the imminent and substantial endangerment to Flint residents' health from lead contamination in their drinking water.

Dated: October 1, 2015

Respectfully Submitted,

/s/ Pastor Allen Overton
Pastor Allen Overton
COALITION FOR CLEAN WATER

/s/ Pastor Alfred Harris
Pastor Alfred Harris
CONCERNED PASTORS FOR SOCIAL ACTION
2200 Forrest Hill
Flint, Michigan 48504
(810) 394-6787

/s/ Melissa Mays
Melissa Mays
LeeAnne Walters
WATER YOU FIGHTING FOR

/s/ Claire McClinton
Claire McClinton
DEMOCRACY DEFENSE LEAGUE WATER TASK FORCE

/s/ Marc Edwards
Marc Edwards, CEE
Siddhartha Roy
FLINT WATER STUDY TEAM

/s/ Dawn Kettinger
Dawn Kettinger
MICHIGAN NURSES ASSOCIATION

/s/ Yvonne M. White
Yvonne M. White
NAACP – Michigan State Conference

/s/ Jeffrey L. Edison
Jeffrey L. Edison
MICHIGAN CHAPTER OF THE NATIONAL CONFERENCE OF BLACK LAWYERS

/s/ Brooke Tucker
Brooke Tucker
Michael Steinberg
AMERICAN CIVIL LIBERTIES UNION OF MICHIGAN
2966 Woodward Ave.
Detroit, MI 48201
(313) 578-6800

/s/ Dimple Chaudhary
Dimple Chaudhary
Anjali Waikar
Sarah C. Tallman
Evan Feinauer
NATURAL RESOURCES DEFENSE COUNCIL
20 N. Wacker Drive, Suite 1600
Chicago, IL 60606
(312) 663-9900

From: Wurfel, Brad (DEQ)
Sent: Thursday, October 01, 2015 6:56 PM
To: Wurfel, Sara (GOV);Pallone, Maggie (DEQ);Wyant, Dan (DEQ)
Cc: Tommasulo, Karen (DEQ);Murray, David (GOV);Lasher, Geralyn (DHHS);Stanton, Terry A. (Treasury)
Subject: Media QA
Attachments: Media QA.docx

Got a couple questions in here related to the Governor specifically, so please have a look and help me make sure it's right before we call this final, but here's the media Q&A.
Also, Terry please have a look at one of the later questions about the historic sequence. I think I captured the decision on leaving DWSD, but if you've got an official recollection, please provide. Thanks.

b

Flint Drinking Water
Media Q&A

Is the city going back to DWSD?
That's something we're leaving open. It's an option, but there are no moves at this time to do so. If it becomes something city leadership is interested in doing, the state is willing to act as a facilitator between Flint and DWSD to help come to conclusion that's best for the residents of Flint.

How did the state not see or fix this problem sooner?
Right now, we're focusing on addressing the problem at hand. Every household in the city of Flint is going to be eligible to receive a water filter. The Flint Water Treatment Plant is going to fully optimize its corrosion controls by Nov. 1. And we're going to accelerate water system improvements to address the replacement of lead service lines.

In the long term, we will work with the U.S. EPA to look at water testing protocol.

Is the water safe?
The water leaving the Flint Water Treatment Plant is safe to drink and meets federal guidelines for lead. However, we recognize some residents experience higher levels of lead in the water that comes out of their faucets because of lead service lines or lead plumbing in the home. We will expand water testing to better determine which areas have a problem; however, in the meantime, every home will receive a filter to ensure their drinking water is safe.

Does this mean Marc Edwards was right?
We aren't familiar with his testing protocol and have not seen his data. All we know is the state's data and the data Hurley Medical Center provided indicate a need to take precautionary action.

Why didn't you require corrosion controls from day one?
When the city switched water sources, they did begin using lime softening as a corrosion control. DWSD used phosphates, which is another form of corrosion control, but far from the only one. Flint was within federal protocols when it chose to use lime, and this is consistent with what every other community was required to do. The city will now use the past year's water test results to inform a final, or 'optimized' corrosion control system, and has pledged to do so by Nov. 1.

How do you feel about the state and federal testing protocols now that you know there was a problem?

DEQ is working in the community to get a better sense of the actual lead threat, and working with EPA to review our testing protocols. Beyond federal statute requirements, our goal is to protect public health. If we determine we need to make changes, we will.

Why are you requiring corrosion optimization now?
An optimized corrosion control plan will mean lead service lines and plumbing are coated with a layer of phosphates to minimize lead leaching into water. It won't eliminate the lead issue from the water, but it is expected to minimize it. The sooner the city can begin this treatment, the sooner this added level of protection will be in place.

What will you do if the schools you are testing come back with lead?
We will do whatever is necessary to protect the kids in those schools. The action steps announced today should make it clear the state puts the safety of kids and families first.

Is the Governor going to give the city the $30 million it asked for? Or the $13 million state Sen. Ananich wants to include in the budget?
This is a longer term conversation with the state Legislature. As we develop a clearer picture of Flint's lead exposure levels, it will help inform a conversation about short and long-term needs and priorities.

Why did the Governor and the state ignore city residents who have been saying there's a problem for six months?
The state has not ignored this situation. DEQ specialists have been working regularly with Flint officials, in Flint, for the past several years. We've been paying very close attention, but state regulators can't make decisions on allegations. We've been collecting and analyzing data and putting our top departmental minds on this issue. Some new information recently concerns the state enough to take action out of an abundance of caution while we investigate further.

Why did the Governor hide the fact that he was involved in distributing filters previously?
The Governor did not hide anything. He's long been a proponent of a "no blame, no credit" approach to leadership. The administration has been meeting regularly with church leaders from Flint, and he listened when many of them expressed that their memberships had serious concerns. His help to acquire the filters wasn't a media stunt, and he didn't feel compelled to claim credit for his role.

Will you meet with Marc Edwards?
We are not adverse to the idea. He has been invited to participate in the Mayor's Technical Advisory, and DEQ's staff are on that group, so we anticipate getting to dialogue with him there.

Do you trust the city's data?
The city certified its data, as all water system operators do when performing statutorily required lead and copper tests. We are reviewing their data.

Why did the Governor allow the city to switch away from DWSD initially?
The city felt compelled to make the switch. At the time, DWSD was forming the Great Lakes Water Authority, and offered Flint a contract when the city announced it would eventually leave to join KWA. The city

Has the city/Governor put residents at risk?
We don't think so. We recognize there is tremendous public concern in Flint regarding the water. The system is in compliance with federal lead and copper rules, based on testing. But we are aware that some in Flint are being exposed to higher levels of lead, and we are taking significant precautionary steps to protect the community as we look deeper into the situation.

What will the state do about my children? Lead poisoning causes irreversible damage.
Lead poisoning is serious. That is why the state has several programs that screen for lead in our communities and work to educate parents about sources of lead poisoning and ways to avoid it.

Is lead just a problem in Flint?
Lead is a long-standing problem throughout Michigan and the country. The leading source of lead poisoning is lead paint, but other pathways include soils contaminated by historic lead from car emissions and industrial processes, and sometimes from lead plumbing and service connections in old homes and neighborhoods. While all these sources are long outlawed, the lead persists in the environment and in homes.

Why isn't the Governor here today?
Governor regrets he cannot personally lead this announcement. He is out of state and the leadership of his cabinet on this issue, Nick Lyon and Dan Wyant, are presenting this plan today because the state did not want to wait to announce it is taking action. But the governor was integral in the development of the plan.

Does the Flint River have lead? Is it more corrosive than the water from DWSD?
The Flint River does not have lead. The water produced by the drinking water plant does not have lead in it. This issue is strictly about the lead in home plumbing, and that fact makes getting specific data about lead exposure a challenge.
On the issue of corrosivity: the state's drinking water program screens drinking water for 90 different contaminants, but corrosiveness it is not a drinking water standard. Operators of large systems are required to implement corrosion control measures, and Flint is doing that on a very abbreviated schedule.

If the lead is in individual homes' plumbing, how long will it take to fix this problem?
Experts estimate that the process from commencing corrosion control measures to seeing a protective coating develop throughout the system could take up to six months.

Will the move to KWA fix it, or will we still see lead?
It is entirely possible. Historic testing of Flint's system showed the presence of lead when the city was using DWSD water, and it is likely that some homes will still see some level of lead exposure after the system is optimized. The only way to eliminate lead completely is to remove lead plumbing.

Will testing start over when we move to KWA?
Yes, but the corrosion control measures will not be suspended when the city begins the process again next year. The new water source KWA will supply is the same one the Detroit system uses – Lake Huron.

Why aren't Kildee and Ananich here?
Don't know. They were briefed and invited. Today's announcement is a partnership, and we will look to our elected leadership to help protect the people of Flint.

How much are we paying all these new consultants – Dr. Wells and the EPA expert?
Dr. Wells is the state's Chief Medical Officer. Her new role in Flint is part of her duties to the state. The EPA expert similarly is participating as part of his job (SOMEBODY TELL ME IF THIS IS ACCURATE).

Did the DEQ provide any advice to the emergency manager about the switch from DWSD?
The state was opposed to Flint leaving DWSD – not because of concerns about water quality, but because at the time the city was working through its bankruptcy and the state felt the move would incur more expenses for both cities. Flint made the case it could save money in the period that KWA was constructing its pipe, and the state leaders – including the Emergency Financial Manager – eventually granted the city its request.

How long has lead been a problem in Flint? If the problem is in people's home, does that mean they have always been poisoned by this?
Lead is a historic problem, particularly in urban areas, around the nation. While the leading source of lead ingestion has always been paint, lead plumbing has always been some lesser part of the picture. This is why the U.S. EPA created the lead rule – to monitor drinking water systems and raise awareness about lead in home plumbing, and require systems to take steps to minimize lead exposure.

Why aren't you declaring a state of emergency?
The action plan announced today takes significant steps to protect the community while state experts take a closer look at the situation. Available information is concerning enough to spark precautionary protective actions, but there is insufficient hard data yet available to declare an emergency.

Why aren't you providing bottled water?
Distributing lead filters throughout the city will address lead exposure in drinking water while the state continues its investigation.

How long does it take for the system to be fully optimized once the corrosion control treatment begins?
Approximately six months. The state will direct the city to test the system again early next year to check its progress. Any resident approached to participate in the testing is strongly encouraged to participate. Not only does the opportunity offer a free home lead test, but the results help city and state regulators get a more accurate picture of what is happening. Resident participation is crucial to the success of this program, and participation in Flint has historically been a challenge.

From: Tommasulo, Karen (DEQ)
Sent: Thursday, October 01, 2015 7:23 PM
To: Scott, Allison (GOV)
Cc: Wyant, Dan (DEQ)
Subject: Fwd: talking points
Attachments: 151001. Talking points.docx; ATT00001.htm

Allison,
Here's DEQ's talking points for tomorrow. Let me know if you need anything else.

Sent from my iPhone

Begin forwarded message:

> **From:** "Tommasulo, Karen (DEQ)" <TommasuloK@michigan.gov>
> **Date:** October 1, 2015 at 4:27:53 PM EDT
> **To:** "Pallone, Maggie (DEQ)" <PalloneM@michigan.gov>, "Minicuci, Angela (DHHS)" <MinicuciA@michigan.gov>, "Eisner, Jennifer (DHHS)" <EisnerJ@michigan.gov>, "Hertel, Elizabeth (DHHS)" <HertelE@michigan.gov>, "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>, "Wurfel, Sara (GOV)" <WurfelS@michigan.gov>, "Murray, David (GOV)" <MurrayD1@michigan.gov>, "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>, "Wyant, Dan (DEQ)" <WyantD@michigan.gov>, "Paciorek, Josh (GOV)" <PaciorekJ@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>
> **Subject: talking points**
>
> Here's the talking points we've been working from. Feel free to add DHHS' info.
>
> Karen Tommasulo
> Public Information Officer
> Michigan Department of Environmental Quality
> 517-284-6716 | 517-599-5733
> tommasulok@michigan.gov

Flint Drinking Water Action Plan
Talking Points

Overall Messaging

- Repeated testing shows the water leaving Flint's drinking water system is safe to drink and meets all federal guidelines, including lead.
- After the switch the Flint River, the compliance testing protocol yielded results of 6 ppb in December 2014 and 11 ppb in June 2015. Both results were below the federal action level of 15 ppb.
- However, we recognize some residents experience higher levels of lead in the water that comes out of their faucets because of lead plumbing in the home, and that's a concern.
- Out of an abundance of caution, we want to address the needs of all Flint families, and so we have developed an action plan that includes both short- and long-term solutions.
- The state plan focuses on increasing water testing, offering additional precautions for families, and providing long-term solutions to address the city's water infrastructure.

Messaging regarding the action plan

The city and the state are working together to gather more data to ensure the water that leaves the treatment plant as well as the water that arrives in Flint homes is safe for all residents.

- **Immediately test Flint public schools to ensure that drinking water is safe. Testing will also be available at no cost to any other school in Flint.**
    - Although Flint's drinking water meets all federal requirements, the state wants to take extra steps to ensure that drinking water is safe for the city's children.
    - The state will fund this testing (about $30,000) at no cost to the city or the local schools, and make the results publicly available.

- **Expand health exposure testing of individual residences.**
    - To double-check its data as well as provide residents with an additional layer of assurance, the DEQ will conduct more tests at Flint properties.
    - The Technical Advisory Committee will determine the scope of this expanded testing.

- **Offer water testing at no cost to Flint residents to assure water is safe.**
    - Although all testing indicates water in the city of Flint meets all federal standards, we understand some residents are concerned.
    - To ensure water in individual homes is safe, free water testing is available to all Flint residents.
    - We encourage anyone with a concern to get their water tested.
    - Contact the city water department to have your water tested.

- **Begin optimizing corrosion controls in the Flint drinking water system.**

- A fully optimized corrosion control system can help coat the inside of pipes to minimize the amount of lead that enters the drinking water after it leaves the treatment plant.
- This is a helpful step that can help minimize lead system-wide, and we're pleased the city is moving to take this step.
- If asked: This was not initially required because a fully optimized corrosion control system is not federally required in many water systems. Even today, since Flint is meeting all federal standards, this fully optimized system is not required. However, to address public concerns and ensure every possible precaution is taken, the city is moving forward with installing this corrosion control system.

- **Convene a "Safe Drinking Water Technical Advisory Committee" to ensure the best technology, practices and science are being utilized, and add an expert from the EPA's Office of Research and Development to the group.**
  - The Safe Drinking Water Technical Advisory Committee will meet Oct. 7 to discuss fully optimizing the corrosion control system, expanding testing of at-risk properties, and other topics.
  - Tom Burke, the Deputy Assistant Administrator of EPA's Office of Research and Development as well as the EPA's Science Advisor, will participate on the committee. Prior to joining EPA, he held prominent positions at the Johns Hopkins Bloomberg School of Public Health and founded the Johns Hopkins Risk Sciences and Public Policy Institute. He brings substantial expertise, and we're pleased he is able join the committee.

- **Accelerate water system improvements to address replacement of lead service lines.**
  - Regardless of the drinking water source – whether it be DWSD, the Flint River or Lake Huron – the only permanent fix for lead is to replace all 18,000 of the private lead service lines in the city. These are the lines on private property that lead from the curb to individual homes.
  - This is a problem in communities statewide, and one we want to address with a long-term solution.
  - The state and EPA are working together to find a way for the city to access Drinking Water Revolving Loan funds for the work.

- **Expedite completion of Karegnondi Water Authority.**
  - The move to the Flint River was always a temporary measure until the connection to the KWA and to Lake Huron was completed.
  - This is the ultimate goal of the venture, and the state and locals will work together to speed up completion of the connection.

- **Governor Snyder names Dr. Eden Wells as Flint Drinking Water Public Health Advisor.**
  - Dr. Wells is the Director for the Preventive Medicine Residency at the University of Michigan School of Public Health in Ann Arbor as well as the Chief Medical Executive for MDHHS.

- She brings years of experience in epidemiology and preventative medicine to the issue, and we're thrilled to have her expertise.
- Dr. Wells will coordinate with Hurley Medical Center to share data on blood lead levels in children, as well as address other emerging issues.

- **Provide water filters to residents of Flint.**
  - As an additional precaution, water filters will be available to low-income families.
  - This provides another safeguard to ensure everyone in the city of Flint has access to clean drinking water that they feel confident drinking.

- **Expand a comprehensive lead education initiative.**
  - Lead plumbing is common in homes built prior to 1986, and anyone in the state with lead pipes in their home can take some extra precautions to minimize lead in their drinking water.
  - It takes time for lead to accumulate in drinking water from plumbing, and so flushing your pipes prior to using them can minimize your exposure.
    - To flush your pipes, run the water until it's as cold as it will go. This can take as little as 5 to 30 seconds if you have recently flushed the toilet or otherwise used water in your home, or as long as 2 to 5 minutes if you have not used any water in hours.
    - In the city of Flint, running the water for 5 minutes only costs about 3-16 cents, depending on your faucet.
  - Additionally, more lead gets into hot water than cold water. Use only cold water for drinking, cooking and making baby formula.

From: Brown, Eric (GOV)
Sent: Thursday, October 01, 2015 8:09 PM
To: Lyon, Nick (DHHS)
Cc: Hertel, Elizabeth (DHHS);Wyant, Dan (DEQ);Pallone, Maggie (DEQ);Mcbride, Bill (GOV)
Subject: Re: Kildee Letter DRAFT

Thanks all

Sent from my mobile device

On Oct 1, 2015, at 7:08 PM, Lyon, Nick (DHHS) <LyonN2@michigan.gov> wrote:

> I am fine with the letter as Elizabeth suggests. Thank you.
>
> On Oct 1, 2015, at 7:00 PM, Hertel, Elizabeth (DHHS) <HertelE@michigan.gov> wrote:
>
> > Eric,
> >
> > It looks good. I think we want to remove the premix formula ask, as we have learned there isn't a supply to support that. Also, to clarify in snap, we would like to be able to increase the current snap benefit so that people don't have to use the current amount they have for bottled water.
> >
> > Thank you!
> >
> > Sent from my iPhone
> >
> > On Oct 1, 2015, at 5:16 PM, Brown, Eric (GOV) <BrownE15@michigan.gov> wrote:
> >
> > > Nick & Dan:
> > > Please take a look at the attached draft letter to Congressman Kildee, particularly the 4 requests for federal action. Please edit/add as necessary. Thanks for your quick attention to this – we need to have this ready for the Governor's signature by 8:30am tomorrow. Sorry for the tight turnaround.
> > > --Eric
> > >
> > > **Eric K Brown**
> > > Senior Federal Policy Representative
> > > State of Michigan – Governor Rick Snyder
> > > Washington D.C. Office
> > > 202.624.5840 (office)

<Kildee Lead Flint DRAFT 09-30-2015.docx>

Message

From: Wyant, Dan (DEQ) [/O=MIGOV/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=WYANTD1]
Sent: 3/20/2012 6:41:41 PM
To: Olszewski, Rosemarie (DEQ) [/O=MIGOV/OU=First Administrative Group/cn=Recipients/cn=OLSZEWSKIR]
CC: Thelen, Mary Beth (DEQ) [/O=MIGOV/OU=First Administrative Group/cn=Recipients/cn=THELENM2]
Subject: FW: Agenda
Attachments: 20120312093621678.pdf; 20120312102445416.pdf; 20120320141054881.pdf

2 sets.

Mary Beth Thelen

Executive Management Assistant to the Director

Department of Environmental Quality

Thelenm2@michigan.gov

517-373-7917 or 517-241-7390

From: David Ottenwess [mailto:dottenwess@ottenwesslaw.com]
Sent: Tuesday, March 20, 2012 2:30 PM
To: Dillon, Andy (Treasury); Muchmore, Dennis (GOV); Gadola, Michael (GOV); Wyant, Dan (DEQ); cpugh313@gmail.com; browngary@detroitmi.gov; Chris Brown; mccormic@dwsd.org
Cc: Fausone, Jim; Sean_Cox@mied.uscourts.gov; Katrina_Staub@mied.uscourts.gov; Diane_Lewinski@mied.uscourts.gov
Subject: Agenda

All,

Attached is tomorrow's agenda. I have also re-attached both memoranda for your convenience.

Regards,

David M. Ottenwess

OTTENWESS, ALLMAN & TAWEEL, PLC

535 Griswold, Suite 850

Detroit, MI 48226

(313) 965-2121 ext. 211

(313) 965-7680

Dottenwess@ottenwesslaw.com

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CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
BOARD OF WATER COMMISSIONERS

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226-2830
PHONE: 313•224•4704 TTY:311
FAX: 313•224•6067
WWW.DETROITMI.GOV

DWSD Fact Sheet

March 14, 2012

The Detroit Water and Sewerage Department (DWSD) is a department of the City of Detroit government. DWSD is governed by a seven-member Board of Water Commissioners (BOWC) whose members are appointed by the Mayor. Four commissioners, represent Detroit residents. Three remaining commissioners represent suburban wholesale customers with appointees from Wayne, Oakland and Macomb counties.

DWSD provides water service to the entire city of Detroit and neighboring southeastern Michigan communities throughout Wayne, Oakland, Macomb, St. Clair, Lapeer, Genesse, Washtenaw and Monroe counties. The 1,079-square-mile water service area, which includes Detroit and 126 suburban communities, makes up approximately 40 percent of the state's population. Wastewater service is also provided to a 946-square-mile area that encompasses Detroit and 76 neighboring communities. DWSD's water supply system is one of the largest in the nation both in terms of water produced and population served. The water system draws fresh water from the Great Lakes System, with Lake Huron to the north and the Detroit River to the south through 3 raw water intakes.

DWSD's water network consists of 3,438 miles of transmission and distribution mains within the City of Detroit, and 402 miles of transmission mains in the remaining service area. DWSD's five water treatment plants pump an average of 596 million gallons of clean drinking water each day. The Department is responsible for maintenance and repair of 27,244 fire hydrants in the city.

DWSD's sewer system originated in 1836, and today consists of 10 pump stations, five combined sewer overflow retention treatment basins, three screening and disinfection facilities and a total of 3,433 miles of sewer lines that carry rainwater and wastewater to the Wastewater Treatment Plant one of the largest single-site wastewater treatment facilities in the country. This facility treats an average of 707 million gallons of flow per day.

The Detroit Water and Sewerage Department, with 2,100 employees, has the fifth lowest combined water and sewerage rates per month among the 20 most populated cities in the United States. By law, DWSD can only recover the cost for provision of service, DWSD cannot make a profit. For the Fiscal Year (FY) 2011/2012 the allocated Revenue Requirement, for the Suburban Wholesale and the Detroit Retail customers: Water $355,857,000 and Sewage $464,622,300.

DWSD's July 2011 Capital Improvement Program totals approximately $1.3 billion over the next five years with approximately $216.50 million budgeted for water and sewer projects for FY 2011-12. The major projects in the Capital Improvement Program include replacement of aging water mains in Detroit; water meter replacement and automatic water reading equipment installation; rehabilitation and upgrades to water and wastewater treatment plants, pumping stations and reservoirs; rehabilitation or replacement of sewer lines and outfalls; construction of combined sewer overflow control facilities to ensure that sewer systems effectively handle storm water flows and protect the environment.

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
BOARD OF WATER COMMISSIONERS

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226-2830
PHONE: 313•224•4704 TTY:311
FAX: 313•224•6067
WWW.DETROITMI.GOV

DWSD and STATE OF MICHIGAN ISSUES
March 14, 2012

I. Flint & KWA

Flint has been a contract customer of DWSD since 1965. The original 35-year contract term expired in 2000, but service continues under the terms of the original contract, pending notification to terminate (the contract requires a one-year notice) from either party. The original contract contained estimated annual volumes for every year covered by the contract, and contained a "take or pay" provision equal to one-half of the estimated figures. In 1990, after Flint's failure to purchase up to 50% of the estimated amounts in the contract, DWSD and Flint negotiated an amendment that lowered the annual estimates, but left all other terms intact. Flint sells DWSD water to Genesee County on a wholesale basis via terms of an agreement between those two parties that was originally dated 1973, with a 2013 expiration date.

(a) KWA

Genesee County has been exploring alternative sources of water for a decade. That effort is led by the County Drain Commissioner Jeff Wright. The Karegnondi Water Authority (KWA) was established to more formally coordinate the evaluation of water supply alternatives. KWA consists largely of Lapeer County, Genesee County and Flint. The KWA project involves a $600,000,000 investment to pump and transmit raw water from Lake Huron to Flint. Even KWA acknowledges it is not a better financial arrangement than DWSD for the next 30 years. KWA is presently requesting Flint to agree to participate in a $10,000,000 engineering study and reports construction could start late 2012 or spring 2013.

DWSD has not ignored this effort. Instead a technical and financial committee consisting of KWA and DWSD representatives has been working cooperatively to DWSD / Flint / Genesee County for various options for the authority. DWSD Director McCormick and BOWC Chair Fausone have met with Mr. Wright and Flint financial manager, Mr. Brown, since the new year.

The KWA communities comprise about 6 percent of the DWSD water revenue structure. DWSD and its customers (through the TAC, etc.) have expressed a desire to keep the KWA communities "on board", but have been reluctant to pursue alternatives which would do so at a cost to other customers more than the 6 percent revenue requirement increase that would occur if DWSD just let them leave.

(b) Capacity

Through its five water treatment plants DWSD has the capacity to produce up to 1.7 billion gallons per day (bgd) of water – but current demand levels are closer to 1.0 bgd. DWSD has a large amount of available "excess" production capacity, which has contributed to recent rate increases – DWSD has maintained this capacity as water demands and sales have dropped.

DWSD's new capital improvement plans, and the mission of the upcoming master plan update, are seeking the best manner to "downsize" capacity and still meet service levels to the entire Southeast Michigan region. At the same time, the "independent" KWA plan seeks to unnecessarily add new water production capacity of approximately 60 to 80 million gallons per day (mgd) to the region, while taking that demand away from the DWSD system. Clearly, this is not an efficient nor strategic investment of public dollars in the region.

(c) Impact and Compliance

At DWSD water supply and sewage disposal functions are so fundamentally intertwined as to be inseparable. Administration, finance, procurement, maintenance, security, metering, customer service and billing, enterprise system investments, programs and initiatives that are essential for one utility function are also required for the other. The Water / Sewer Rate Interrelationship is based on the reality that DWSD is a unitary department that manages and operates both Detroit's water system and its sewer system. The extent that DWSD resources and facilities directly serve both the water and sewer systems is apparent in that only approximately 40 percent of DWSD employees perform "solely water" or "solely sewer" functions. These employees are primarily located at the treatment plants. The remaining 60 percent carry out activities that benefit both systems. The costs of these resources and facilities are shared between the two utility systems. The water rates provide the funding mechanism for the water system's share and the sewer rates provide the funding mechanism for the sewer system's share. The ability of the sewer system to carry out its mission and achieve long term compliance with the Clean Water Act is directly impacted by the ability of the water system to provide its share of the funding for these resources common to the water and sewer systems.

DWSD is requesting the State, which has appointed a financial manager for Flint, consider a regional approach to decisions of water and sewerage services. The State should not encourage or authorize DWSD customers to cannibalize the existing system, and to add additional regional debt thereby increasing the pressure on DWSD's customers to support existing debt and operations.

II. Distressed Communities and Customers

In recent years, the global economic issues have had a significant impact on Southeast Michigan and DWSD. With significant loss of water use (sales) and the commensurate sewer use (sales), rates for both services have risen substantially to cover costs associated with past and current capital investments. Compounding the decline in sales is the increasing bad debt on the systems from both Detroit and customer communities.

Detroit Public Schools and Highland Park, both under State oversight, are in significant arrearage to DWSD. The DPS accounts receivable is approximately $11,000,000. The Highland Park account receivable is at $9,576,165.

In recent months, the problems in Highland Park have resulted in the State approaching DWSD to assist Highland Park due to potentially significant public health issues in their drinking water system.

Other Southeast Communities are also demonstrating an inability to pay DWSD for services provided to their communities. In addition to Highland Park, six additional DWSD customer communities including Inkster and Hamtramck have increasing past due amounts. For example, the City of Inkster, which has recently received State funds "to keep the lights on", owes DWSD $1,595,844. Additionally, the City of Detroit which is undergoing financial review by the State has a general fund arrearage to DWSD of approximately $8,000,000.

It is quite likely DWSD will be asked to assist or manage some or all of the failing community's water and waste water systems because DWSD is uniquely positioned to do so. We recognize the critical role DWSD might have in these issues. However, it is quiet ironic that the State would seek DWSD's assistance through assuming responsibility for failing systems, and the economic risk that goes with that, at the same time the State would allow or facilitate DWSD's largest customer to exit the system. Add to this that the most significant outstanding debt owed DWSD are communities under State oversight or on the watch list. These actions in total are of significant detriment to DWSD, further hampering DWSD's ability to address investment necessary to effect long term compliance.

DWSD is requesting the State require distressed communities, and entities under State control, to pay for services provided and to consider water and sewer issues in its regional decision.

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
BOARD OF WATER COMMISSIONERS

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226-2830
PHONE: 313•224•4704 TTY:311
FAX: 313•224•6067
WWW.DETROITMI.GOV

AGENDA
MARCH 21, 2012

I. Introductions

II. DWSD Update

- April 2011 Order
- Board of Water Commissioners - reset
- November 2011 Order

III. Karegnondi Water Authority (KWA)

- Flint – Water Customer (6% = $24.4 million)
- KWA – plans for water line
- Meeting with Mr. Brown and Mr. Wright

IV. Distressed Communities

- Highland Park
- Detroit Public Schools
- Inkster

V. Construction Project Financing

- Sewer Bonds
  $200 million – new money
- Schedule

VI. Impact of Detroit Consent Order process

- Agreement with Unions on Cost Reduction
- DWSD/BOWC independent from Review Board Finances
- Sale of DWSD concerns

From: Robinson, Michael <MRobinson@wnj.com>
Sent: Monday, March 07, 2011 2:58 PM
To: Sygo, Jim (DEQ);Montgomery, Delores (DEQ);Browne, Elizabeth (DEQ);Dailey, Daniel (DEQ);Tuma, Gary (DEQ)
Subject: Revised Flint PPA
Attachments: 4981850_12 Change-Pro Redline - 4981850-v10-FlintChevy - Agt, Order on Consent & Cov Not to Sue Flint - Felitti final clean version and 4981850-v11-FlintChevy -.DOC; 4981850_11 Flint_Chevy - Agt, Order on Consent & Cov Not to Sue Flint - Felitti final clean version.DOC

All, attached are a clean and redline showing the changes that I made to the PPA draft that we had on the table at our meeting last Thursday regarding the City of Flint and Chevy In The Hole. You will see that I made several changes to reduce the role of the State in the PPA (see Sections 4, 7h, 15, 20, 24, 39, 41, and the added signature lines). The key changes to address the concerns expressed by the Department last Thursday are found in Section 37. I have forwarded these attachments to Steve Montle and Christina Kelly for their comments and I have yet to hear back from them but expect to soon. I wanted to get these in your hands asap so that you could review them before Jim has his meeting in Chicago this week. Please let me know if you have any questions or comments. Mike

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	Docket Number:
	)	AGREEMENT, ORDER ON CONSENT, AND
Former Delphi	)	COVENANT NOT TO SUE
"Flint West" Site	)	THE CITY OF FLINT, MI
Also know as General Motors Corp.	)	
"*Chevy in the Hole*" Site	)	
Flint, Michigan	)	
	)	
	)	
City of Flint, MI	)	
SETTLING RESPONDENT	)	UNDER THE AUTHORITY OF
	)	THE SOLID WASTE DISPOSAL ACT,
	)	42 U.S.C. §6901, *et seq.*, AS AMENDED

I. INTRODUCTION

1. This Agreement, Order on Consent and Covenant Not to Sue ("Agreement") is made and entered into by and between the United States on behalf of the Environmental Protection Agency ("EPA"), the State of Michigan ("State"), and the City of Flint, Michigan ("Settling Respondent") (collectively the "Parties").

2. This Agreement is entered into i) pursuant to the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 ("RCRA"), 42 U.S.C. §6901, and the authority of the Attorney General of the United States to compromise and settle claims of the United States, and ii) pursuant to the Michigan Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended ("NREPA") including, but not limited to, Parts 201 and 111 of NREPA and the authority of the Michigan Department of Attorney General to compromise and settle claims of the State of Michigan.

3. The Settling Respondent proposes to acquire ownership of specified parcels of the former RCRA hazardous waste treatment, storage, or disposal ("TSD") facility known as the Delphi Flint West Site, some or all of which has the EPA identification number MID 005 356 654, having the address 300 N. Chevrolet Avenue, Flint, MI. This facility is currently owned partly by Motors Liquidation Company (successor to the former General Motors Corporation), partly by Kettering University (formerly General Motors Institute), partly by General Motors LLC, partly by Delphi Automotive Systems LLC a.k.a DPH Holdings Corporation ("Delphi") and partly by the Flint Economic Development Corporation. The parcels that are the subject of this Agreement are shown on Appendix 1 and described in Appendix 2 and hereinafter referred to as the "Property". The addresses for the parcels that comprise the Property are 300 North Chevrolet Avenue, 307 South Stevenson Street, Glenwood Avenue, 306 South Stevenson Street and North Chevrolet Avenue. The Settling Respondent intends to acquire the Property and use it for public open space until such time as a suitable developer can be found and engaged. The overall TSD facility, which includes the Property and other parcels of land, is referred to in this document as the "Site" as defined in paragraph 7(n).

4. The Parties agree to undertake all actions required by the terms and conditions of this Agreement. Other than executing this Agreement and except as specifically provided in this Agreement, no affirmative actions of any type are required of the State under this Agreement. The purpose of this Agreement is to settle and resolve, subject to reservations and limitations contained in Sections VI, VII, VIII and IX, the potential liability of the Settling Respondent for the Existing Contamination at the Property which could otherwise result from Settling Respondent's acquisition and ownership of the Property.

5. The Parties agree that the Settling Respondent's entry into this Agreement, and the actions undertaken by the Settling Respondent in accordance with this Agreement, do not constitute an admission of any fact, law, or liability by the Settling Respondent.

6. The resolution of any potential liability in exchange for obligations of the Settling Respondent to EPA is of a substantial benefit and is deemed to be in the public interest.

II. DEFINITIONS

7. Unless otherwise expressly provided herein, terms used in this Agreement which are defined in RCRA, or in regulations promulgated under RCRA or NREPA or the rules promulgated under NREPA, shall have the meaning assigned to them in such statutes or in such regulations, including any amendments thereto.

a. "Agreement" shall mean this Agreement, Order on Consent, and Covenant Not to Sue and all appendices attached hereto (listed in Section XVIII of this Agreement). In the event of conflict between this Agreement and any appendix, this Agreement shall control;

b. "RCRA" shall mean the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 ("RCRA"), 42 U.S.C. §6901 *et seq.*;

d. "Day" shall mean a calendar day unless expressly stated to be a business day. "Business day" shall mean a day other than a Saturday, Sunday, or federal holiday. In computing any period of time under this Agreement, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.

e. "Effective Date" shall be the effective date of this Agreement as provided in Section XV (Effective Date).

f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

g. "Existing Contamination" shall mean:

i. any Waste Material present or existing on or under the Property as of the Effective Date;

ii. any Waste Material that migrated from the Property prior to the Effective Date; and

iii. any Waste Material presently at the Site that migrates onto, on, under, or from the Property after the Effective Date.

h. "~~MDNRE~~MDEQ" is the Michigan Department of ~~Natural Resources and Environment~~Environmental Quality, and any of its successor departments or agencies of the State.

i. "NREPA" shall mean the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Mich. Comp. Laws §101, *et seq.*

j. "Paragraph" shall mean a portion of this Agreement identified by an Arabic numeral or lower case letter;

k. "Part 111" shall mean Part 111, Hazardous Waste Management, of NREPA, as amended, Mich. Comp. Laws §324.11101, *et seq.* and its administrative rules.

l. "Part 201" shall mean Part 201, Environmental Remediation of NREPA, as amended, Mich. Comp. Laws §324.20101, *et seq.* and its administrative rules.

m. "Parties" shall mean the United States, the State, and the Settling Respondent;

n. "Property" shall mean the portion of the Site, encompassing all parcels of land described and depicted in Appendices 1 and 2 of this Agreement, that the Settling Respondent acquires ownership of, whether before, on, or after the Effective Date.

o. "Settling Respondent" shall mean the City of Flint, Michigan.

p. "Site" shall mean the entire former RCRA TSD facility, EPA identification number MID 005 356 654, depicted in Appendix 3.

q. "State" shall mean the State of Michigan, its departments, agencies, and instrumentalities.

r. "United States" shall mean the United States of America, its departments, agencies, and instrumentalities.

s. "Waste Material" shall mean shall mean (i) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. §9601(14); (ii) any "pollutant" or "contaminant" under Section 101(33) of CERCLA, 42 U.S.C. §9601(33); (iii) any "solid waste" or any "hazardous waste" under Section 1004(27) of RCRA, 42 U.S.C. §6903(27); (iv) any "hazardous substance" under Part 201; (v) any "solid waste" or "hazardous waste" under Part 111; and (vi) any other material or substance regulated under NREPA.

III. STATEMENT OF FACTS

8. The Property that is the subject of this Agreement is part of the previously operating Delphi Flint West site, City of Flint, County of Genesee, Michigan, which is the Site. The EPA identification number for the Site is MID 005 356 654. Appendix 1 provides a map of the Property and Appendix 2 provides a detailed legal description of the Property.

9. The Site covers approximately 200 acres. The manufacture of automobiles began at the Site in approximately 1916. The Site is located south of Bluff Street and north of Glenwood

Avenue and Kearsley Street, between and extending east and west of Chevrolet Avenue and Stevenson Street along the Flint River.

10. Formerly the Site was comprised of the GM Motor Division (engine assembly and engine parts plants) and the Pressed Metal Division (parts plants), and includes the preWorld War II Chevrolet Assembly (a.k.a. Plant 2) and Fisher Body plants. In 1984, the Chevrolet Flint Motor Plant (a.k.a. Plant 4) closed. Also in 1984, the newly created Chevrolet-Pontiac-Canada Group briefly took over the Chevrolet plant from Chevrolet Motor Division, but soon the newly formed Fisher Guide Division acquired the complex. In about 1987, the Site was taken over by AC Spark Plug and became AC Spark Plug Flint West. In 1988, it became AC Rochester Flint West, and in 1994, AC Delco Systems Flint West. In early 1995, it was renamed Delphi Flint West.

11. In 1999, Delphi Automotive Systems become a fully independent publicly held corporation.

12. In 2004, Plant 4 (which had reopened some years after it initially closed in 1984) was finally shut down and demolished. The only remaining buildings were Building 35 and Building 38. Building 35 was donated to Kettering University (originally General Motors Institute) in 1996. Building 38 is still operated by General Motors LLC and is known as Flint Tool and Die, but it is not located on the Property.

13. In October 2009, Delphi's core assets were reportedly purchased by a group of private investors to create a new Delphi Corporation. Some of its operations were reportedly sold to General Motors LLC. The stock of the old Delphi Corporation was cancelled, and it was renamed DPH Holdings Corporation.

14. In June 2009, the former General Motors Corporation filed for Chapter 11 bankruptcy reorganization, and subsequently emerged as two new companies. The first of these two new

companies, General Motors LLC, purchased the "General Motors" name and certain assets of the former General Motors Corporation, and now operates automobile manufacturing plants in several locations including Michigan, Ohio, Indiana, Illinois, and Wisconsin. The second company, Motors Liquidation Company, retained all of the assets that General Motors LLC did not purchase, as well as the liabilities.

15. By quitclaim deeds dated as of August 12, 2008 and December 18, 2008, Delphi purportedly conveyed the Property to the Economic Development Corporation of the City of Flint ("EDC"). The EDC is an independent entity separate and apart from the City pursuant to Michigan law with powers to act in the manner of corporations under Michigan law and with its own board of directors, officers and by-laws. There have been allegations by others that the EDC did not properly accept the conveyance by Delphi of the Property, thus both Delphi and the EDC will convey all of their rights, title and interests in the Property to the Settling Respondent.

16. The Flint River flows directly through the Site. After several floods during the first half of the 20th century caused damage at the Site and to downtown Flint, a concrete channel about one mile long was installed on the Site in 1963 by the Army Corps of Engineers. The Site resides in the Flint River watershed, part of the larger Saginaw Bay watershed which ultimately drains into Lake Huron.

17. Two baseline environmental assessments ("BEAs") dated in 2009 were prepared by Dragun Corporation for Delphi for two of the parcels of Property. The BEAs identify contamination in the soil and groundwater consisting of volatile organic compounds ("VOCs"), semi-volatile organic compounds ("SVOCs") and metals. These soil and groundwater results were compared against risk based criteria. This comparison showed that two metals in the soil, arsenic and lead, exceed the direct contact criteria. Metals in groundwater samples exceeding the

drinking water criteria and the groundwater/surface water interface criteria are arsenic, lead, mercury, cadmium, chromium (III) and zinc. Copper, selenium and silver results exceed only the groundwater/surface water interface criteria. VOCs trichlorethene, and 1,1,1 trichloroethane exceed the drinking water and the groundwater/surface water interface criteria. Ethylbenzene, vinyl chloride, 1,1-dichloroethene and cis-1,2 dichloroethene exceed only the drinking water criteria. SVOCs napthalene and phenanthrene exceed the groundwater/surface water interface criteria . The BEAs also describe light non-aqueous phase liquids ("LNAPL"), also known as free product, in the subsurface at several locations.

18. A Phase I environmental site assessment dated September 25, 2009 and a May 10, 2010 Phase II report conducted by AKT Peerless, for five parcels that make up the Property, found:

a. Free product of an unspecified type ranging in thickness from 0.005 to 13.9 feet;

b. Exceedances of drinking water, groundwater/surface water interface, direct contact, and particulate soil inhalation criteria. Contaminants noted were volatile organic compounds, semi-volatile organic compounds and heavy metals;

c. Several releases of oil;

d. Benzene, toluene, ethylbenzene and xylene contamination;

e. Brick, glass, slag, coal and other debris have been disposed on the Property;

f. Leaking underground storage tank releases resulting in exceedances of soil cleanup criteria for lead, phenanthrene, arsenic, mercury, chloroform and trichloroethylene;

g. Free product of an unspecified type;

h. General contamination by VOCs, SVOCs and heavy metals;

i. Oil staining; and

j. Suspected foundry wastes.

IV. WORK TO BE PERFORMED

19. In consideration of and in exchange for the United States' and the State's Covenants Not to Sue in Section VIII of this Agreement, Settling Respondent agrees to comply with its obligations under this Agreement, including, but not limited to, provisions in the Work Plans in Appendix 5 in accordance with the Schedule in the Work Plans. The Settling Respondent intends to convert the Property into a green corridor which would include the enhancement of cover over existing soils, the planting of trees and other vegetation on the Property and the installation of walkways. Within ninety (90) days after the Effective Date, Settling Respondent shall record a document which terminates the restrictive covenants that were placed on the Property by Delphi and execute and record the Declaration of Restrictive Covenants in Appendix 6.

V. ACCESS/COOPERATION

~~21~~20. Commencing upon the date that it acquires title to the Property, Settling Respondent shall provide access to the Property in accordance with the terms of the Declaration of Restrictive Covenants ("RC") referred to below. The RC includes the right of EPA, its authorized officers, employees, representatives, and all other persons performing response actions under EPA oversight and/or under direction of EPA, to an irrevocable right of access at all reasonable times to the Property. Notwithstanding any provision of this Agreement, EPA ~~retains~~and the State retain all of ~~its~~their access authorities and rights, including enforcement authorities related thereto, under RCRA and any other applicable statute or regulation, including any amendments thereto.

~~22~~21. The Settling Respondent shall record the RC attached as Appendix 7 with the Genesee County Register of Deeds immediately after Settling Respondent acquires title to the Property.

VI. DUE CARE

~~23~~22. The Settling Respondent will prepare a Due Care Plan, as part of the work in the Work Plans, for the Property with respect to the Existing Contamination known to Settling Respondent, and shall comply with all applicable provisions of Part 201 of NREPA regarding due care at the Property. If the Settling Respondent excavates contaminated soil on the Property and disposes of such soil, it must dispose of such soil in accordance with all applicable federal and State law. Prior to excavating contaminated soil on the Property, the Settling Respondent shall notify the EPA and provide a work plan for excavation and disposal of such soil to the EPA contacts listed in Section XIV of this Agreement. The Settling Respondent will not excavate and dispose of such soil until the work plan is approved by the EPA.

~~24~~23. In the event the Settling Respondent becomes aware, after the Effective Date, of any action or occurrence which causes or threatens a release of Waste Material at or from the Property that constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Settling Respondent shall immediately take all due care action which is required to be performed by Settling Respondent under Part 201 of NREPA regarding such release or threat of release, and shall, in addition to complying with any applicable notification requirements under Section 103 of CERCLA, 42 U.S.C. §9603, or any other applicable law, immediately notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, as well as the EPA contacts in Section XIV of this Agreement, of such release or threatened release. In the event that Settling Respondent fails to take the action as required by this Paragraph, and EPA takes such action instead, Settling

Respondents shall reimburse EPA all costs of the response action that Settling Respondent was required to take under this Paragraph and that are not inconsistent with the National Contingency Plan ("NCP").

~~25~~24. Nothing in the preceding Paragraphs or in this Agreement shall be deemed to limit any authority of the United States or the State (a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Property, or (b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Property, subject to Section VIII (United States' and State's Covenant Not to Sue) and other applicable provisions of this Agreement.

~~26~~25. The Settling Respondent agrees to cooperate with EPA by allowing access to EPA for any on-going implementation by EPA of removal or response actions, corrective action, and environmental monitoring at the Property and Settling Respondent further agrees not to interfere with such activities. EPA agrees, consistent with its responsibilities under applicable law, to use reasonable efforts to minimize any interference with the Settling Respondent's operations by such entry and activities by EPA.

~~27~~26. The Settling Respondent shall not treat, store, or dispose of hazardous waste, as defined in RCRA and Part 111 of NREPA, at the Property, or release or cause the release of such hazardous waste or hazardous constituents of such hazardous waste on, to, or from the Property, except in compliance with applicable law.

VII. CERTIFICATION

~~28~~27. By entering into this agreement, the Settling Respondent certifies that to the best of its knowledge and belief it has fully and accurately disclosed to EPA ~~and MDNRE~~ all information known to Settling Respondent which is in its possession and which describe Existing Contamination. The Settling Respondent also certifies that to the best of its knowledge and belief it has not caused or contributed to a release or threat of release of Waste Materials at the Property.

VIII. UNITED STATES' AND STATE'S COVENANT NOT TO SUE

~~29~~28. Subject to the Reservation of Rights in Section IX of this Agreement, the United States and the State covenant not to sue or take any other civil or administrative action against Settling Respondent for any and all civil liability for injunctive relief or for civil penalties pursuant to Sections 3008, 7002. 7003, or 9006 of RCRA, 42 U.S.C. §§_____, Parts 111, Part 115, Part 211, Part 213, and Part 201 of NREPA, and, with respect to the State only, CERCLA, and for the reimbursement of any response costs or corrective action costs or other costs pursuant to Part 111, Part 213, and Part 201 and also with respect to the State only, for damages for injury to, destruction of, or loss of natural resources and the cost of any natural resource damage assessment pursuant to any federal or state law with respect to Existing Contamination. The covenants not to sue in this Paragraph shall take effect upon the effective date of this Agreement. These covenants not to sue extend only to Settling Respondent and do not extend to any other person, except as otherwise provided by compliance with Section XVII (Transfer of Agreement by United States and the State).

IX. RESERVATION OF RIGHTS

~~30~~29. The covenant not to sue set forth in Section VIII above does not pertain to any matters other than those expressly specified in Section VIII (United States' and State's Covenant Not to Sue). The United States and the State reserve, and the Agreement is without prejudice to, all rights against Settling Respondent with respect to all other matters, including but not limited to the following:

a. claims based on a failure by Settling Respondent to meet a requirement of this Agreement, including but not limited to Section IV (Work to be Performed), Section V (Access/Cooperation), and Section VI (Due Care);

b. any liability resulting from past or future releases of Waste Material at or from the Property caused or contributed to by Settling Respondent, and its lessees or sublessees;

c. any liability resulting from exacerbation by Settling Respondent, and its lessees or sublessees of Existing Contamination;

d. any liability resulting from the release or threat of release of Waste Materials at the Property after the Effective Date that are not within the definition of Existing Contamination;

e. criminal liability;

f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessment incurred by federal agencies other than EPA, all to the extent of the interest of the federal trustees and EPA, but not the State; and

g. liability for violations of local, State or federal law or regulations that occur after the Effective Date and with respect to matters not related to Existing Contamination (except as otherwise provided in this Agreement).

~~31~~30. With respect to any claim or cause of action asserted by the United States, the Settling Respondent shall bear the burden of proving that the claim or cause of action, or any part thereof, is attributable to Existing Contamination, and Settling Respondent reserves its rights to show that the claim is divisible from Existing Contamination or that an allocation of liability can be made.

~~32~~31. Nothing in this Agreement is intended as a release or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the United States or the State may have against any person, firm, corporation or other entity not a party to this Agreement, except as provided in Paragraph 29.

~~33~~32. Nothing in this Agreement is intended to limit the right of EPA or the State to undertake future response actions at the Property or to seek to compel parties other than the Settling Respondent (and the persons referenced in Paragraph 29) to perform or pay for response actions at the Property. Nothing in this Agreement shall in any way restrict or limit the nature or scope of response actions which may be taken by EPA or the State or be required by EPA or the State to be taken by such other parties in exercising its authority under federal law. Settling Respondent acknowledges that it is operating on property where response actions may be required. EPA and the State, as the case may be, in performing or requiring response actions at

the Property shall coordinate with the Selling Respondent (or the owner/operator of the Property at the time) to minimize interference with the use of and the improvements made on the Property to the extent practicable considering the goals of the response actions.

X. SETTLING RESPONDENT'S COVENANT NOT TO SUE

~~34~~33. In consideration of the United States' and the State's Covenant Not To Sue in Section VIII of this Agreement, the Settling Respondent hereby covenants not to sue and not to assert any claims or causes of action against the United States or the State, their authorized officers, employees, or representatives with respect to the Property or this Agreement, or any claims arising out of response activities at the Property, including claims based on EPA's oversight of such activities or approval of plans for such activities.

~~35~~34. The Settling Respondent reserves, and this Agreement is without prejudice to, actions against the United States and the State based on negligent actions taken directly by the United States or the State or their agents or contractors, not including oversight or approval of the Settling Respondent's plans or activities, that are brought pursuant to any statute or law other than RCRA and for which the waiver of sovereign immunity is found in a statute or law other than RCRA. Nothing in this Agreement shall prevent an action by Settling Respondent, and this Agreement is without prejudice to such actions, against any private agent or contractor of the United States or the State.

~~36~~35. Except as provided in Paragraph 34, Settling Respondent reserves the right to assert any defenses available to it under applicable law, including without limitation, an argument that any release or contamination caused by it is divisible from or allocable with respect to Existing Contamination. The United States reserves all rights to contest any defense asserted by Purchaser under applicable law.

XI. PARTIES BOUND

~~37~~36. This Agreement shall apply to and be binding upon the United States and the State, and shall apply to and be binding on the Settling Respondent. The United States' and the State's Covenant Not to Sue in Section VIII and Contribution in Section XVII shall apply to Settling Respondent's elected officials and employees to the extent that the alleged liability of the elected official or employee is based on his or her status and in his or her capacity as an elected official or employee of Settling Respondent, and not to the extent that the alleged liability arose independently of the alleged liability of the Settling Respondent. Each signatory of a Party to this Agreement represents that he or she is fully authorized to enter into the terms and conditions of this Agreement and to legally bind such Party.

XII. DISCLAIMER

~~38~~37. This Agreement in no way constitutes a finding by EPA or the State as to the risks to human health and the environment which may be posed by contamination at the Property or the Site nor constitutes any representation by EPA or the State that the Property or the Site is fit for any particular purpose. The State shall have no obligations under this Agreement to review or prepare documents, to oversee or monitor progress by Settling Respondent in the implementation of the Work Plans, or to consult or meet with EPA or Settling Respondent regarding the work under the Work Plans or with respect to any other aspect of this Agreement (except as expressly provided for in this Agreement). EPA and Settling Respondent agree to not seek advice, consultation, or concurrence from the State regarding the work under the Work Plans except as may be required by law. It is the intent of the Parties to recognize the staffing and financial constraints at the State and the desire of the

Parties to also avoid duplicative efforts by including these provisions in this Section XII. Nothing herein prevents the State, on a voluntary basis, from offering comments to EPA and Settling Respondent regarding the work under the Work Plans.

XIII. DOCUMENT RETENTION

~~39~~38. The Settling Respondent agrees to retain and make available to EPA ~~and the State~~ all business and operating records, site studies and investigations, and documents relating to Settling Respondent's operations which are conducted at the Property after the Effective Date, for at least ten years, following the Effective Date unless otherwise agreed to in writing by the Parties. At the end of ten years, the Settling Respondent shall notify EPA ~~and the State~~ of the location of such documents and shall provide EPA ~~and the State~~ with an opportunity to copy any documents at the expense of EPA ~~and the State, as the case may be~~.

XIV. NOTICES AND SUBMISSIONS

~~40~~39. Documents which must be submitted under this Agreement, if any, shall be sent by overnight delivery or certified mail, return receipt requested, to the following addressees or to any other addressees which the Settling Respondent~~,~~ and EPA~~, and the State~~ designate in writing:

As to the EPA:

Christopher Black
Remediation and Reuse Branch
Land and Chemicals Division
United States Environmental Protection Agency
77 West Jackson Blvd., mail code: LU-9J
Chicago, Illinois 60604-3590
Phone: (312) 886-6945
FAX:
E-mail: black.christopher@epa.gov

Peter Felitti
Assistant Regional Counsel
United States Environmental Protection Agency
77 West Jackson Blvd., mail code: C-14J
Chicago, Illinois 60604-3590
Phone: (312) 886-5114
FAX: (312) 692-2495
E-mail: felitti.peter@epa.gov

~~**As to the State:**~~

~~**Celeste R. Gill**~~
~~**Michigan Attorney General**~~
~~**Executive Division**~~
~~**525 West Ottawa**~~
~~**Post Office Box 30212**~~
~~**Lansing, Michigan 48909**~~
~~**Phone: (517) 373-7540**~~
~~**Fax: (517) 3731610**~~
~~**E-mail: giller@michigan.gov**~~

~~**Daniel Dailey**~~
~~**Michigan Department of Natural Resources and Environment**~~
~~**Waste and Hazardous Materials Division**~~
~~**525 West Allegan Street**~~
~~**Post Office Box 30241**~~
~~**Lansing, Michigan 48909-7741**~~
~~**Phone: (517) 335-6610**~~
~~**Fax: (517)**~~
~~**E-mail: DaileyD@michigan.gov**~~

As to the Settling Respondent:

Steve Montle
Mayor's Office
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502
Telephone: (810) 237-2024
Fax: (810)
E-mail: smontle@cityofflint.com

Michael L. Robinson
Warner Norcross & Judd LLP
900 Fifth Third Center
111 Lyon Street, N.W.

Grand Rapids, Michigan 49503-2487
Phone: (616) 752-2128
Fax: (616) 222-2128
E-mail: mrobinson@wnj.com

XV. EFFECTIVE DATE

~~41~~40. The Effective Date of this Agreement shall be the date upon which EPA issues written notice to the Settling Respondent and the State that EPA has fully executed the Agreement after review of and response to any public comments received and after Settling Respondent and the State have executed the Agreement.

XVI. TERMINATION

~~42~~41. If ~~any Party~~EPA or Settling Respondent believes that any or all of the obligations under Sections IV (Work to be Performed) and Section V (Access/Cooperation) are no longer necessary to ensure compliance with the requirements of the Agreement, ~~that Party~~either of them may request in writing that the other ~~Party~~ agree to terminate the provision(s) establishing such obligations; provided, however, that the provision(s) in question shall continue in force unless and until the party requesting such termination receives written agreement from the other party to terminate such provision(s).

XVII. TRANSFER OF AGREEMENT BY THE UNITED STATES AND THE STATE

~~43~~42. Upon completion of the following conditions, a transferee of all or a portion of the Property shall have all rights, duties and obligations under this Agreement, as specified below, including, but not limited to, any right under Section VIII (Covenants Not to Sue by the United States and the State):

a. at least thirty (30) days before the transfer, the transferee submits to U.S. EPA and the State an affidavit, such as that attached as Appendix 8, which identifies the transferee and the property to be transferred, describes the proposed transfer, and certifies that:

i. the transferee has not caused or contributed to the release or threat of release of any amount of the Existing Contamination;

ii. the transferee's use of the Property (or part of the Property, as the case may be) will not result in a release or threat of release of any Waste Material except in compliance with law;

iii. the transferee's use of the Property (or part of the Property, as the case may be) will not cause or contribute to the migration or new release of any Existing Contamination or any new threat to human health or the environment caused by any such release or threat of release; and

iv. the person signing the affidavit is fully authorized to make the foregoing certifications and to legally bind the transferee;

b. EPA and the State consent in writing to the transfer of the rights, benefits, and obligations conferred under the Agreement to the transferee. EPA and the State shall provide the transferee with its determination within sixty (60) days of receipt of transferee's affidavit; and

c. Prior to or simultaneous with the transfer of all or a portion of the Property, the transferee consents in writing to be bound by and perform, from the date of transfer, all of the terms and remaining obligations of the Agreement as through it were Settling Respondent or the applicable transferor.

If the transferee's affidavit is not materially accurate or complete, the Covenants Not to Sue by the United States and the State in Section VIII shall be null and void with respect to the

transferee, and the United States and the State reserve all rights they may have against the transferee.

~~44~~43. If all conditions in Paragraph 43 are satisfied, upon transfer of ownership of the Property, Settling Respondents shall be released from the obligations set forth in his Agreement.

~~45~~44. A lessee or sub-lessee (collectively "lessee") on all or a portion of the Property shall have all rights under this Agreement, including, but not limited to, any right under Section VIII (Covenants Not to Sue by the United States and the State), by providing to EPA prior to the date of tenancy, the written certification set forth in the affidavit attached as Appendix 9. However, if the lessee's affidavit is not materially accurate or complete, the Covenant Not to Sue by the United States and the State in Section VIII shall be null and void with respect to the lessee, and the United States and the State reserve all rights they may have against the lessee. No rights under this Agreement shall apply to a lessee that does not timely provide such written certification.

XVIII. CONTRIBUTION

~~46~~45. The Settling Respondent agrees that with respect to any suit or claim for contribution brought by it for matters related to this Agreement, it will notify the United States in writing no later than sixty (60) days prior to the initiation of such suit or claim.

~~47~~46. The Settling Respondent also agrees that with respect to any suit or claim for contribution brought against it for matters related to this Agreement, it will notify in writing the United States within ten (10) days of service of the complaint on it.

~~48~~47. Settling Respondent shall have the contribution protection described in Section 324.20129(6). This is an administrative settlement.

XIX. APPENDICES

~~49~~48. (a) Appendix 1 is a map of the Property which is the subject of this Agreement and a list of reports and documents which describe conditions at or regarding the Property.

(b) Appendix 2 is a description of the five parcels that make up the Property subject to this Agreement.

(c) Appendix 3 is a map of the Site.

(d) Appendix 4 is a map of the green corridor.

(e) Appendix 5 contains the two Work Plans.

(f) Appendix 6 is the Declaration of Restrictive Covenants.

(g) Appendix 7 is the Transfer Affidavit.

(h) Appendix 8 is the lessee affidavit.

XX. PUBLIC COMMENT

~~50~~49. This Agreement shall be subject to notice in the Federal Register and a thirty-day public comment period, after which EPA may modify or withdraw its consent to this Agreement if comments received disclose facts or considerations that indicate this Agreement is inappropriate, improper, or inadequate.

IT IS SO AGREED:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BY:

Regional Administrator Date
U.S. EPA Region 5

IT IS SO AGREED:

UNITED STATES DEPARTMENT OF JUSTICE

BY:

Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Date

IT IS SO AGREED:

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

BY:

Date

Its:

IT IS SO AGREED:

MICHIGAN DEPARTMENT OF ATTORNEY GENERAL

BY:

Date

Its:

IT IS SO AGREED:

BY:

SETTLING RESPONDENT Date

Appendix 1

Map of the Property that is the Subject of this Agreement

and List of Reports and Documents

Appendix 2

Description of Five Parcels making up the Property Subject to this Agreement

Property

The following described premises situated in the City of Flint, County of Genesee and the State of Michigan, to-wit:

Parcel 1:

A parcel bounded on the East by Chevrolet Avenue, on the North by Flint River, on the West by Center Street, and on the South by Grand Trunk Western Railroad.

Part of Lots 14 and 15, Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6, Page 6, Genesee County, Michigan Records; also part of Lots 5 and 6, Peter O'Conner's Subdivision of part of Lot 1 of Thayer and Wright's Outlots, as recorded in Deed Liber 83, Page 0 and transcribed in Plat Liber 14, Page 20, Genesee County, Michigan Records; also part of Outlot 1 of Thayer and Wright's Outlots, Section 9, Smith's Reservation, as recorded in Deed Liber 25, Page 639, and transcribed in Plat Liber 6, Page 12, Genesee County, Michigan Records; also part of Lots 13 through 17, Block 2 and Lots 18 through 21, Block 3, all in Thurber's Addition to West Flint, as recorded in Deed Liber 68, Page 616, Genesee County, Michigan Records; also including part of vacated Kearsley Street, Garden Street, Pershing Street, and Joyner Street, City of Flint, Genesee County, Michigan described as follows: Commencing at the intersection of the Southerly Line of Hasselbring Street, so-called, with the Westerly Line of Chevrolet Avenue, so-called; thence Southerly, along said Westerly Line of Chevrolet Avenue, S 31°30'53" E 398.51 feet AND S 61°01'48" E 26.74 feet AND S 31°06'17" E 227.89 feet to the place of beginning, being the intersection of the said Westerly Line with the Northerly Face of an existing retaining Wall at the Southerly Bank of the Flint River; thence S 83°25'21" W, along said Northerly Face, 27.47 feet to an angle point in said Wall; thence continuing along said Northerly Face, S 59°46'45" W 584.07 feet to an angle point in said Wall; thence S 09°58'57" E, along the Westerly Face of said Wall, 31.72 feet to the Southerly Face of an existing Retaining Wall; thence along said Southern Face, on a curve to the right, having a radius of 661.26 feet, an arc length of 256.41, with a chord bearing and distance of S 72°28'20" W 254.81 feet AND S 83°34'53" W 90.0 feet to the Easterly Line of Center Street, so-called; thence Southerly along the said Easterly Line to a point being S 00°48'30" E 19.19 feet from the intersection of the said Easterly Line of Center Street with the Centerline of Joyner Street, so-called; thence N 87°22' E 128.16 feet; thence on a curve to the left, having a radius of 15,416.74 feet, with a chord bearing and distance of N 86°47'30" E 304.96 feet to the intersection of the Easterly Line of Pershing Street, so-called, with the said Centerline of Joyner Street extended Easterly; thence Southerly, along the said Easterly Line of Pershing Street, to the Northerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Easterly, along said Railroad Right-of-Way, to the Westerly Line of said Chevrolet Avenue; thence Northerly, along said Westerly Line, to the place of beginning.

Parcel 2:

A parcel bounded on the East by Stevenson Street, on the North by Flint River, on the West by Chevrolet Avenue, and on the South by Grand Trunk Western Railroad.

Part of Lots 7 through 14, Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6,, Page 6, Genesee County, Michigan Records; also part of Lots 11 through 26, Robinson Place, as recorded in Plat Liber 1, Page 28, Genesee County, Michigan Records; also part of Lots 1 through 6, Block 3, McFarlan's Addition to West Flint, as recorded in Deed Liber 82, Page 0, Genesee County, Michigan Records; also part of Lots 6 through 11, Ephraim S. Williams Subdivision, as recorded in Deed Liber 84, Page 9, and transcribed in Plat Liber 14, Page 32, Genesee County, Michigan Records; also part of Bang's Replat of part of Blocks 6 and 8, McFarlan and Co.'s Cottage Grove Addition, as recorded in Plat Liber 4, Page 21, Genesee County, Michigan Records; also including part of vacated Kearsley Street, Robinson Place Street and McFadden Street, City of Flint, Genesee County, Michigan described as follows: Beginning at a point on the Westerly Line of Stevenson Street, so-called, which is S 41°04'05" E 257.19 feet from the intersection of said Westerly Line with the Southerly Line of Bluff Street, so-called, being at the Southerly Bank of the Flint River; thence Westerly, along said Southerly Bank, S 59°21'35" W 98.48 feet AND S 42°39'38" W 104.4 feet AND S 59°21'35" W 412.66 feet AND S 40°55'29" W 79.06 feet AND S 30°25'01" W 50.16 feet AND S 20°32'57" W 94.23 feet AND S 03°06'40" W 331.01 feet AND N 81°35'08" W 18.08 feet AND S 03°06'40" W 41.75 feet AND S 08°24'52" W 83.83 feet AND S 81°35'08" E 15 feet AND S 08°24'52" W 85.02 feet AND S 31°25' W 187.98 feet AND S 51°23'05" W 68.90 feet AND N 38°36'55" W 15 feet AND S 51°23'05" W 259.5 feet AND S 59°24'07" W 486.09 feet to the Easterly Line of Chevrolet Avenue, so-called; thence Southerly, along said Easterly Line, to the Northerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Easterly, along said Railroad Right-of-Way, N 58°05'06" E 146.50 feet AND S 31°54'54" E 6.0 feet AND N 58°05'06" E 288 feet AND N 79°40'49" E 51.62 feet AND N 58°05'06" E 209.30 feet AND on a curve to the left, having a radius of 1465.70 feet, with a chord bearing and distance of N 55°36'48" E 5.61 feet AND on a curve to the left, having a radius of 1465.70 feet, with a chord bearing and distance of N 48°07'48" E 376.20 feet AND on a curve to the left, having a radius of 789.74 feet, with a chord bearing and distance of N 31°46'35" E 79.73 feet AND on a curve to the left, having a radius of 1687.59 feet, with a chord bearing and distance of N 25°40'04" E 189.30 feet AND N 04°52'22" E 69.17 feet to the Southerly Line of Kearsley Street, so-called; thence continuing Easterly, along said Railroad Right-of-Way, to the Westerly Line of said Stevenson Street; thence Northerly, along said Westerly Line, to the place of beginning.

Parcel 3:

A parcel bounded on the West by Chevrolet Avenue, on the North by Grand Trunk Western Railroad, on the East by Asylum Street, and on the South by Glenwood Avenue.

Part of Lots 7 through 13, Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6, Page 6, Genesee County, Michigan Records; also part of Lots 1 through 6, 11, and 12, Ephraim S. Williams Subdivision, as recorded in Deed Liber 84, Page 0, and transcribed in Plat Liber 14, Page 32, Genesee County, Michigan Records; also including part of vacated Kearsley Street, City of Flint, Genesee County, Michigan, described as follows: Beginning at a point on the Northerly Line of Glenwood Avenue, so-called, which is S 52°15'02" W 152.22 feet from the Southeasterly Corner of Lot 13, Block 1, of said West Flint; thence on a curve to the right, having a radius of 25.00 feet, a central angle of 93°51'00, with a chord bearing and distance of N 80°49'28" W 36.52 feet to the Easterly Lien of Chevrolet Avenue, so-called; thence N 33°53'58" W, along said Easterly Line, 157.69 feet to the Southerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Easterly, along said Railroad Right-of-Way, N 56°42'17" E 65.30 feet AND N 75°09'53" E 29.69 feet AND N 65°56'06" E 67.60 feet AND N 61°42'38" E 60.43 feet AND N 60°54'10" E 299.93 feet AND N 61°15'50" E 207.57 feet AND N 55°56'48" E 48.28 feet AND N 50°01'12" E 109.47 feet AND N 45°11'08" E 88.57 feet AND N 42°33'04" E 125.24 feet AND N 31°13'59" E 137.79 feet AND N 25°57'55" E 194.92 feet AND N 17°49'59" W 19.47 feet AND N 30°01'49" E 65.80 feet AND N 31°11'43" W 25.86 feet AND N 30°55'47" E 17.96 feet to the Southerly Line of Kearsley Street, so-called; thence continuing along said Railroad Right-of-Way to the Westerly Line of Asylum Street, so-called, extended Northerly; thence S 31°43'45" E, along said Westerly Line of Asylum Street and Line extended, to a point being 80 feet Northerly from the intersection of said Westerly Line with the Northerly Line of said Glenwood Avenue; thence S 60°15' W 80 feet; thence S 36°06'10" E 22.56 feet; thence S 60°15' W 90.26 feet; thence S 29°24'18" E 20 feet; thence S 60°15' W 50 feet to the Westerly Line of Lot 7, Block 1 of said West Flint; thence Southerly, along said Westerly Line, to the said Northerly Line of Glenwood Avenue; thence Westerly, along said Northerly Line, to the place of beginning.

Commonly known as	Parcel	Tax I.D. Number shown on 1999 Quit Claim Deed	Current Parcel Number
300 N. Chevrolet Avenue	1	10-13-301-005-8	4013301005
306 S. Stevenson St.	2	10-13-176-002-5	4013176002
Glenwood Ave.	3	10-13-326-005-4	4013326005

Parcel 4:

A parcel bounded on the West by Stevenson Street, on the North and East by the Flint River and on the South by Grand Trunk Western Railroad.

Part of Lots 1 through 5, Block 1 and Lots 1 through 14, Block 2, all in McFarlan's Addition to West Flint, as recorded in Deed Liber 82, Page 0, Genesee County, Michigan Records; also part of Block C, McFarlan and Co.'s Cottage Grove Addition, as recorded in Deed Liber 79, Page 0, and transcribed in Plat Liber 18, Page 13, Genesee County, Michigan Records; also part of Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6, Page 6, Genesee County, Michigan Records; also part of Section 8, Plat of Section 2, 3, 4, 5, 6, and 8, being part of the Reserve at near The Grand Traverse on Flint River, as recorded in Plat Liber 1, Page 5, Genesee County, Michigan Records; also including part of vacated Stewart Street, Whaley Street, and Mill Street, City of Flint, Genesee County, Michigan, described as follows: Beginning at a point on the Easterly Line of Stevenson Street, so-called, which is S 40°38'13" E 257.97 feet from the intersection of said Easterly Line with the Southerly Line of Bluff Street, so-called, being at the Southerly Bank of the Flint River; thence Easterly, along said Southerly Bank, N 59°21'35" E 147.73 feet AND N 89°46'17" E 59.26 feet AND N 47°23'01" E 168.67 feet AND N 15°46'06" E 55.23 feet AND N 14°11'26" E 122.46 feet AND N 38°11'30" E 118.10 feet AND N 58°07'18" E 124.97 feet AND S 85°19'47" E 14.20 feet AND N 08°19'03" W to the Southerly Edge of the Flint River; thence Easterly and Southerly, along the said Southerly Edge of the Flint River, to the Northerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Westerly, along said Railroad Right-of-Way, to the said Easterly Line of Stevenson Street; thence Northerly, along said Easterly Line, to the place of beginning.

Parcel 5:

A parcel bounded on the West by Stevenson Street, on the North by Grand Trunk Western Railroad, on the East by Thread Creek, and on the South by Kearsley Street.

Part of Lots 6 through 15, Block 1 and Lot 1 and Lots 3 through 10, Block 4 and Lots 1 through 10, Block 5 and Lots 1 through 6, Block 6 and Lots 1 through 6, Block 7 and including part of vacated streets and alleys in and between the said Blocks, all in McFarlan's Addition to West Flint, as recorded in Deed Liber 82, Page 0, Genesee County, Michigan Records; also part of Section 8, Plat of Section 2, 3, 4, 5, 6, and 8, being part of the Reserve at near The Grand Traverse on Flint River, as recorded in Plat Liber 1, Page 5, Genesee County, Michigan Records, City of Flint, Genesee County, Michigan described as follows: Beginning at a point on the Northerly Line of Kearsley Street, so-called, which is N 60°51' E 128.50 feet from the intersection of said Northerly Line with the Easterly Line of Stevenson Street, so-called, also being the Southwesterly Corner of Block 7, of said McFarlan's Addition to West Flint; thence S 67°41'34" W 62.95 feet; thence S 60°51' W 29.70 feet; thence on a curve to the right, having a radius of 20 feet, a central angle of 89°35', having a chord bearing and distance of N 74°21'30" W 28.18 feet; thence N 29°34' W 69.76 feet; thence N 36°24'34" W 138.49 feet to the said Easterly Line of Stevenson Street; thence Northerly, along said Easterly Line, to the Southerly Line of the Grand Trunk Western Railroad Right-of-Way, being 10.7 feet Northerly of the Southwesterly Corner of Lot 4, Block 4, of said McFarlan's Addition to West Flint; thence Easterly, along said Southerly Line of the Grand Trunk Western Railroad Right-of-Way, to a

point on the Easterly Line of vacated Whaley Street, so-called, which is 25 feet Northerly of the Southwesterly Corner of Lot 6, Block 1, of said McFarlan's Addition to West Flint; thence continuing Easterly, along said Railroad Right-of-Way, to a point being 66.41 feet Westerly of the intersection of said Railroad Right-of-Way with the Easterly line of Island Street, so-called, also being at the Easterly Bank of Thread Creek; thence Southerly, along said Easterly Bank, S 05°30'50" E 55.99 feet AND S 05°30'51" W 15.76 feet AND S 02°13'35" W 77.91 feet AND S 08°08'40" E 175.00 feet AND on a curve to the left, having a radius of 121.81 feet, with a chord bearing and distance of S 21°58'48" E 58.26 feet AND S 35°48'55" E 111.08 feet to the said Northerly Line of Kearsley Street, being S 58°13'55" W 116.05 feet AND S 60°16'59" W 115.86 feet from the intersection of said Northerly Line of Kearsley Street with the Westerly Line of said Island Street; thence Westerly, along said Northerly Line of Kearsley Street, to the place of beginning.

Parcel 4: Commonly known as: 307 S. Stevenson St.
Tax I.D. Number: 00-13-251-004-9 or 4013251004

Parcel 5: Commonly known as: 300 N. Chevrolet Avenue
Tax I.D. Number: 10-13-251-011 or 4013251011

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Summary Report: Litera Change-Pro ML 6.5.0.151 Document Comparison done on 3/7/2011 10:25:50 AM	
Style Name: Default Style	
Original Filename:	
Original DMS:iw://WNJDMS/WNJDMS/4981850/10	
Modified Filename:	
Modified DMS: iw://WNJDMS/WNJDMS/4981850/11	
Changes:	
Add	62
~~Delete~~	68
Move From	0
Move To	0
Table Insert	0
~~Table Delete~~	0
Embedded Graphics (Visio, ChemDraw, Images etc.)	0
Embedded Excel	0
Total Changes:	130

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

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IN THE MATTER OF:	)	
	)	Docket Number:
	)	AGREEMENT, ORDER ON CONSENT, AND
Former Delphi	)	COVENANT NOT TO SUE
"Flint West" Site	)	THE CITY OF FLINT, MI
Also know as General Motors Corp.	)	
"*Chevy in the Hole*" Site	)	
Flint, Michigan	)	
	)	
	)	
City of Flint, MI	)	
SETTLING RESPONDENT	)	UNDER THE AUTHORITY OF
	)	THE SOLID WASTE DISPOSAL ACT,
	)	42 U.S.C. §6901, *et seq.*, AS AMENDED

I. INTRODUCTION

1. This Agreement, Order on Consent and Covenant Not to Sue ("Agreement") is made and entered into by and between the United States on behalf of the Environmental Protection Agency ("EPA"), the State of Michigan ("State"), and the City of Flint, Michigan ("Settling Respondent") (collectively the "Parties").

2. This Agreement is entered into i) pursuant to the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 ("RCRA"), 42 U.S.C. §6901, and the authority of the Attorney General of the United States to compromise and settle claims of the United States, and ii) pursuant to the Michigan Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended ("NREPA") including, but not limited to, Parts 201 and 111 of NREPA and the authority of the Michigan Department of Attorney General to compromise and settle claims of the State of Michigan.

3. The Settling Respondent proposes to acquire ownership of specified parcels of the former RCRA hazardous waste treatment, storage, or disposal ("TSD") facility known as the Delphi Flint West Site, some or all of which has the EPA identification number MID 005 356 654, having the address 300 N. Chevrolet Avenue, Flint, MI. This facility is currently owned partly by Motors Liquidation Company (successor to the former General Motors Corporation), partly by Kettering University (formerly General Motors Institute), partly by General Motors LLC, partly by Delphi Automotive Systems LLC a.k.a DPH Holdings Corporation ("Delphi") and partly by the Flint Economic Development Corporation. The parcels that are the subject of this Agreement are shown on Appendix 1 and described in Appendix 2 and hereinafter referred to as the "Property". The addresses for the parcels that comprise the Property are 300 North Chevrolet Avenue, 307 South Stevenson Street, Glenwood Avenue, 306 South Stevenson Street and North Chevrolet Avenue. The Settling Respondent intends to acquire the Property and use it for public open space until such time as a suitable developer can be found and engaged. The overall TSD facility, which includes the Property and other parcels of land, is referred to in this document as the "Site" as defined in paragraph 7(n).

4. The Parties agree to undertake all actions required by the terms and conditions of this Agreement. Other than executing this Agreement and except as specifically provided in this Agreement, no affirmative actions of any type are required of the State under this Agreement. The purpose of this Agreement is to settle and resolve, subject to reservations and limitations contained in Sections VI, VII, VIII and IX, the potential liability of the Settling Respondent for the Existing Contamination at the Property which could otherwise result from Settling Respondent's acquisition and ownership of the Property.

5. The Parties agree that the Settling Respondent's entry into this Agreement, and the actions undertaken by the Settling Respondent in accordance with this Agreement, do not constitute an admission of any fact, law, or liability by the Settling Respondent.

6. The resolution of any potential liability in exchange for obligations of the Settling Respondent to EPA is of a substantial benefit and is deemed to be in the public interest.

II. DEFINITIONS

7. Unless otherwise expressly provided herein, terms used in this Agreement which are defined in RCRA, or in regulations promulgated under RCRA or NREPA or the rules promulgated under NREPA, shall have the meaning assigned to them in such statutes or in such regulations, including any amendments thereto.

a. "Agreement" shall mean this Agreement, Order on Consent, and Covenant Not to Sue and all appendices attached hereto (listed in Section XVIII of this Agreement). In the event of conflict between this Agreement and any appendix, this Agreement shall control;

b. "RCRA" shall mean the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 ("RCRA"), 42 U.S.C. §6901 *et seq.*;

d. "Day" shall mean a calendar day unless expressly stated to be a business day. "Business day" shall mean a day other than a Saturday, Sunday, or federal holiday. In computing any period of time under this Agreement, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.

e. "Effective Date" shall be the effective date of this Agreement as provided in Section XV (Effective Date).

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f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

g. "Existing Contamination" shall mean:

i. any Waste Material present or existing on or under the Property as of the Effective Date;

ii. any Waste Material that migrated from the Property prior to the Effective Date; and

iii. any Waste Material presently at the Site that migrates onto, on, under, or from the Property after the Effective Date.

h. "MDEQ" is the Michigan Department of Environmental Quality, and any of its successor departments or agencies of the State.

i. "NREPA" shall mean the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Mich. Comp. Laws §101, *et seq.*

j. "Paragraph" shall mean a portion of this Agreement identified by an Arabic numeral or lower case letter;

k. "Part 111" shall mean Part 111, Hazardous Waste Management, of NREPA, as amended, Mich. Comp. Laws §324.11101, *et seq.* and its administrative rules.

l. "Part 201" shall mean Part 201, Environmental Remediation of NREPA, as amended, Mich. Comp. Laws §324.20101, *et seq.* and its administrative rules.

m. "Parties" shall mean the United States, the State, and the Settling Respondent;

n. "Property" shall mean the portion of the Site, encompassing all parcels of land described and depicted in Appendices 1 and 2 of this Agreement, that the Settling Respondent acquires ownership of, whether before, on, or after the Effective Date.

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o. "Settling Respondent" shall mean the City of Flint, Michigan.

p. "Site" shall mean the entire former RCRA TSD facility, EPA identification number MID 005 356 654, depicted in Appendix 3.

q. "State" shall mean the State of Michigan, its departments, agencies, and instrumentalities.

r. "United States" shall mean the United States of America, its departments, agencies, and instrumentalities.

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s. "Waste Material" shall mean shall mean (i) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. §9601(14); (ii) any "pollutant" or "contaminant" under Section 101(33) of CERCLA, 42 U.S.C. §9601(33); (iii) any "solid waste" or any "hazardous waste" under Section 1004(27) of RCRA, 42 U.S.C. §6903(27); (iv) any "hazardous substance" under Part 201; (v) any "solid waste" or "hazardous waste" under Part 111; and (vi) any other material or substance regulated under NREPA.

III. STATEMENT OF FACTS

8. The Property that is the subject of this Agreement is part of the previously operating Delphi Flint West site, City of Flint, County of Genesee, Michigan, which is the Site. The EPA identification number for the Site is MID 005 356 654. Appendix 1 provides a map of the Property and Appendix 2 provides a detailed legal description of the Property.

9. The Site covers approximately 200 acres. The manufacture of automobiles began at the Site in approximately 1916. The Site is located south of Bluff Street and north of Glenwood Avenue and Kearsley Street, between and extending east and west of Chevrolet Avenue and Stevenson Street along the Flint River.

10. Formerly the Site was comprised of the GM Motor Division (engine assembly and engine parts plants) and the Pressed Metal Division (parts plants), and includes the preWorld War II Chevrolet Assembly (a.k.a. Plant 2) and Fisher Body plants. In 1984, the Chevrolet Flint Motor Plant (a.k.a. Plant 4) closed. Also in 1984, the newly created Chevrolet-Pontiac-Canada Group briefly took over the Chevrolet plant from Chevrolet Motor Division, but soon the newly formed Fisher Guide Division acquired the complex. In about 1987, the Site was taken over by AC Spark Plug and became AC Spark Plug Flint West. In 1988, it became AC Rochester Flint West, and in 1994, AC Delco Systems Flint West. In early 1995, it was renamed Delphi Flint West.

11. In 1999, Delphi Automotive Systems become a fully independent publicly held corporation.

12. In 2004, Plant 4 (which had reopened some years after it initially closed in 1984) was finally shut down and demolished. The only remaining buildings were Building 35 and Building 38. Building 35 was donated to Kettering University (originally General Motors Institute) in 1996. Building 38 is still operated by General Motors LLC and is known as Flint Tool and Die, but it is not located on the Property.

13. In October 2009, Delphi's core assets were reportedly purchased by a group of private investors to create a new Delphi Corporation. Some of its operations were reportedly sold to General Motors LLC. The stock of the old Delphi Corporation was cancelled, and it was renamed DPH Holdings Corporation.

14. In June 2009, the former General Motors Corporation filed for Chapter 11 bankruptcy reorganization, and subsequently emerged as two new companies. The first of these two new companies, General Motors LLC, purchased the "General Motors" name and certain assets of the former General Motors Corporation, and now operates automobile manufacturing plants in

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several locations including Michigan, Ohio, Indiana, Illinois, and Wisconsin. The second company, Motors Liquidation Company, retained all of the assets that General Motors LLC did not purchase, as well as the liabilities.

15. By quitclaim deeds dated as of August 12, 2008 and December 18, 2008, Delphi purportedly conveyed the Property to the Economic Development Corporation of the City of Flint ("EDC"). The EDC is an independent entity separate and apart from the City pursuant to Michigan law with powers to act in the manner of corporations under Michigan law and with its own board of directors, officers and by-laws. There have been allegations by others that the EDC did not properly accept the conveyance by Delphi of the Property, thus both Delphi and the EDC will convey all of their rights, title and interests in the Property to the Settling Respondent.

16. The Flint River flows directly through the Site. After several floods during the first half of the 20th century caused damage at the Site and to downtown Flint, a concrete channel about one mile long was installed on the Site in 1963 by the Army Corps of Engineers. The Site resides in the Flint River watershed, part of the larger Saginaw Bay watershed which ultimately drains into Lake Huron.

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17. Two baseline environmental assessments ("BEAs") dated in 2009 were prepared by Dragun Corporation for Delphi for two of the parcels of Property. The BEAs identify contamination in the soil and groundwater consisting of volatile organic compounds ("VOCs"), semi-volatile organic compounds ("SVOCs") and metals. These soil and groundwater results were compared against risk based criteria. This comparison showed that two metals in the soil, arsenic and lead, exceed the direct contact criteria. Metals in groundwater samples exceeding the drinking water criteria and the groundwater/surface water interface criteria are arsenic, lead, mercury, cadmium, chromium (III) and zinc. Copper, selenium and silver results exceed only

the groundwater/surface water interface criteria. VOCs trichlorethene, and 1,1,1 trichloroethane exceed the drinking water and the groundwater/surface water interface criteria. Ethylbenzene, vinyl chloride, 1,1-dichloroethene and cis-1,2 dichloroethene exceed only the drinking water criteria. SVOCs napthalene and phenanthrene exceed the groundwater/surface water interface criteria . The BEAs also describe light non-aqueous phase liquids ("LNAPL"), also known as free product, in the subsurface at several locations.

18. A Phase I environmental site assessment dated September 25, 2009 and a May 10, 2010 Phase II report conducted by AKT Peerless, for five parcels that make up the Property, found:

a. Free product of an unspecified type ranging in thickness from 0.005 to 13.9 feet;

b. Exceedances of drinking water, groundwater/surface water interface, direct contact, and particulate soil inhalation criteria. Contaminants noted were volatile organic compounds, semi-volatile organic compounds and heavy metals;

c. Several releases of oil;

d. Benzene, toluene, ethylbenzene and xylene contamination;

e. Brick, glass, slag, coal and other debris have been disposed on the Property;

f. Leaking underground storage tank releases resulting in exceedances of soil cleanup criteria for lead, phenanthrene, arsenic, mercury, chloroform and trichloroethylene;

g. Free product of an unspecified type;

h. General contamination by VOCs, SVOCs and heavy metals;

i. Oil staining; and

j. Suspected foundry wastes.

IV. WORK TO BE PERFORMED

19. In consideration of and in exchange for the United States' and the State's Covenants Not to Sue in Section VIII of this Agreement, Settling Respondent agrees to comply with its obligations under this Agreement, including, but not limited to, provisions in the Work Plans in Appendix 5 in accordance with the Schedule in the Work Plans. The Settling Respondent intends to convert the Property into a green corridor which would include the enhancement of cover over existing soils, the planting of trees and other vegetation on the Property and the installation of walkways. Within ninety (90) days after the Effective Date, Settling Respondent shall record a document which terminates the restrictive covenants that were placed on the Property by Delphi and execute and record the Declaration of Restrictive Covenants in Appendix 6.

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V. ACCESS/COOPERATION

20. Commencing upon the date that it acquires title to the Property, Settling Respondent shall provide access to the Property in accordance with the terms of the Declaration of Restrictive Covenants ("RC") referred to below. The RC includes the right of EPA, its authorized officers, employees, representatives, and all other persons performing response actions under EPA oversight and/or under direction of EPA, to an irrevocable right of access at all reasonable times to the Property. Notwithstanding any provision of this Agreement, EPA and the State retain all of their access authorities and rights, including enforcement authorities related thereto, under RCRA and any other applicable statute or regulation, including any amendments thereto.

21. The Settling Respondent shall record the RC attached as Appendix 7 with the Genesee County Register of Deeds immediately after Settling Respondent acquires title to the Property.

VI. DUE CARE

22. The Settling Respondent will prepare a Due Care Plan, as part of the work in the Work Plans, for the Property with respect to the Existing Contamination known to Settling Respondent, and shall comply with all applicable provisions of Part 201 of NREPA regarding due care at the Property. If the Settling Respondent excavates contaminated soil on the Property and disposes of such soil, it must dispose of such soil in accordance with all applicable federal and State law. Prior to excavating contaminated soil on the Property, the Settling Respondent shall notify the EPA and provide a work plan for excavation and disposal of such soil to the EPA contacts listed in Section XIV of this Agreement. The Settling Respondent will not excavate and dispose of such soil until the work plan is approved by the EPA.

23. In the event the Settling Respondent becomes aware, after the Effective Date, of any action or occurrence which causes or threatens a release of Waste Material at or from the Property that constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Settling Respondent shall immediately take all due care action which is required to be performed by Settling Respondent under Part 201 of NREPA regarding such release or threat of release, and shall, in addition to complying with any applicable notification requirements under Section 103 of CERCLA, 42 U.S.C. §9603, or any other applicable law, immediately notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, as well as the EPA contacts in Section XIV of this Agreement, of such release or threatened release. In the event that Settling Respondent fails to take the action as required by this Paragraph, and EPA takes such action instead, Settling Respondents shall reimburse EPA all costs of the response action that Settling Respondent was

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required to take under this Paragraph and that are not inconsistent with the National Contingency Plan ("NCP").

24. Nothing in the preceding Paragraphs or in this Agreement shall be deemed to limit any authority of the United States or the State (a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Property, or (b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Property, subject to Section VIII (United States' and State's Covenant Not to Sue) and other applicable provisions of this Agreement.

25. The Settling Respondent agrees to cooperate with EPA by allowing access to EPA for any on-going implementation by EPA of removal or response actions, corrective action, and environmental monitoring at the Property and Settling Respondent further agrees not to interfere with such activities. EPA agrees, consistent with its responsibilities under applicable law, to use reasonable efforts to minimize any interference with the Settling Respondent's operations by such entry and activities by EPA.

26. The Settling Respondent shall not treat, store, or dispose of hazardous waste, as defined in RCRA and Part 111 of NREPA, at the Property, or release or cause the release of such hazardous waste or hazardous constituents of such hazardous waste on, to, or from the Property, except in compliance with applicable law.

VII. CERTIFICATION

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27. By entering into this agreement, the Settling Respondent certifies that to the best of its knowledge and belief it has fully and accurately disclosed to EPA all information known to

Settling Respondent which is in its possession and which describe Existing Contamination. The Settling Respondent also certifies that to the best of its knowledge and belief it has not caused or contributed to a release or threat of release of Waste Materials at the Property.

VIII. UNITED STATES' AND STATE'S COVENANT NOT TO SUE

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28. Subject to the Reservation of Rights in Section IX of this Agreement, the United States and the State covenant not to sue or take any other civil or administrative action against Settling Respondent for any and all civil liability for injunctive relief or for civil penalties pursuant to Sections 3008, 7002. 7003, or 9006 of RCRA, 42 U.S.C. §§_____, Parts 111, Part 115, Part 211, Part 213, and Part 201 of NREPA, and, with respect to the State only, CERCLA, and for the reimbursement of any response costs or corrective action costs or other costs pursuant to Part 111, Part 213, and Part 201 and also with respect to the State only, for damages for injury to, destruction of, or loss of natural resources and the cost of any natural resource damage assessment pursuant to any federal or state law with respect to Existing Contamination. The covenants not to sue in this Paragraph shall take effect upon the effective date of this Agreement. These covenants not to sue extend only to Settling Respondent and do not extend to any other person, except as otherwise provided by compliance with Section XVII (Transfer of Agreement by United States and the State).

IX. RESERVATION OF RIGHTS

29. The covenant not to sue set forth in Section VIII above does not pertain to any matters other than those expressly specified in Section VIII (United States' and State's Covenant Not to Sue). The United States and the State reserve, and the Agreement is without prejudice to, all

rights against Settling Respondent with respect to all other matters, including but not limited to the following:

a. claims based on a failure by Settling Respondent to meet a requirement of this Agreement, including but not limited to Section IV (Work to be Performed), Section V (Access/Cooperation), and Section VI (Due Care);

b. any liability resulting from past or future releases of Waste Material at or from the Property caused or contributed to by Settling Respondent, and its lessees or sublessees;

c. any liability resulting from exacerbation by Settling Respondent, and its lessees or sublessees of Existing Contamination;

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d. any liability resulting from the release or threat of release of Waste Materials at the Property after the Effective Date that are not within the definition of Existing Contamination;

e. criminal liability;

f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessment incurred by federal agencies other than EPA, all to the extent of the interest of the federal trustees and EPA, but not the State; and

g. liability for violations of local, State or federal law or regulations that occur after the Effective Date and with respect to matters not related to Existing Contamination (except as otherwise provided in this Agreement).

30. With respect to any claim or cause of action asserted by the United States, the Settling Respondent shall bear the burden of proving that the claim or cause of action, or any part thereof, is attributable to Existing Contamination, and Settling Respondent reserves its rights to show that the claim is divisible from Existing Contamination or that an allocation of liability can be made.

31. Nothing in this Agreement is intended as a release or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the United States or the State may have against any person, firm, corporation or other entity not a party to this Agreement, except as provided in Paragraph 29.

32. Nothing in this Agreement is intended to limit the right of EPA or the State to undertake future response actions at the Property or to seek to compel parties other than the Settling Respondent (and the persons referenced in Paragraph 29) to perform or pay for response actions at the Property. Nothing in this Agreement shall in any way restrict or limit the nature or scope of response actions which may be taken by EPA or the State or be required by EPA or the State to be taken by such other parties in exercising its authority under federal law. Settling Respondent acknowledges that it is operating on property where response actions may be required. EPA and the State, as the case may be, in performing or requiring response actions at the Property shall coordinate with the Selling Respondent (or the owner/operator of the Property at the time) to minimize interference with the use of and the improvements made on the Property to the extent practicable considering the goals of the response actions.

X. SETTLING RESPONDENT'S COVENANT NOT TO SUE

33. In consideration of the United States' and the State's Covenant Not To Sue in Section VIII of this Agreement, the Settling Respondent hereby covenants not to sue and not to assert any claims or causes of action against the United States or the State, their authorized officers, employees, or representatives with respect to the Property or this Agreement, or any claims arising out of response activities at the Property, including claims based on EPA's oversight of such activities or approval of plans for such activities.

34. The Settling Respondent reserves, and this Agreement is without prejudice to, actions against the United States and the State based on negligent actions taken directly by the United States or the State or their agents or contractors, not including oversight or approval of the Settling Respondent's plans or activities, that are brought pursuant to any statute or law other than RCRA and for which the waiver of sovereign immunity is found in a statute or law other than RCRA. Nothing in this Agreement shall prevent an action by Settling Respondent, and this Agreement is without prejudice to such actions, against any private agent or contractor of the United States or the State.

35. Except as provided in Paragraph 34, Settling Respondent reserves the right to assert any defenses available to it under applicable law, including without limitation, an argument that any release or contamination caused by it is divisible from or allocable with respect to Existing Contamination. The United States reserves all rights to contest any defense asserted by Purchaser under applicable law.

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XI. PARTIES BOUND

36. This Agreement shall apply to and be binding upon the United States and the State, and shall apply to and be binding on the Settling Respondent. The United States' and the State's Covenant Not to Sue in Section VIII and Contribution in Section XVII shall apply to Settling Respondent's elected officials and employees to the extent that the alleged liability of the elected official or employee is based on his or her status and in his or her capacity as an elected official or employee of Settling Respondent, and not to the extent that the alleged liability arose independently of the alleged liability of the Settling Respondent. Each signatory of a Party to this Agreement represents that he or she is fully authorized to enter into the terms and conditions of this Agreement and to legally bind such Party.

XII. DISCLAIMER

37. This Agreement in no way constitutes a finding by EPA or the State as to the risks to human health and the environment which may be posed by contamination at the Property or the Site nor constitutes any representation by EPA or the State that the Property or the Site is fit for any particular purpose. The State shall have no obligations under this Agreement to review or prepare documents, to oversee or monitor progress by Settling Respondent in the implementation of the Work Plans, or to consult or meet with EPA or Settling Respondent regarding the work under the Work Plans or with respect to any other aspect of this Agreement (except as expressly provided for in this Agreement). EPA and Settling Respondent agree to not seek advice, consultation, or concurrence from the State regarding the work under the Work Plans except as may be required by law. It is the intent of the Parties to recognize the staffing and financial constraints at the State and the desire of the Parties to also avoid duplicative efforts by including these provisions in this Section XII. Nothing herein prevents the State, on a voluntary basis, from offering comments to EPA and Settling Respondent regarding the work under the Work Plans.

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XIII. DOCUMENT RETENTION

38. The Settling Respondent agrees to retain and make available to EPA all business and operating records, site studies and investigations, and documents relating to Settling Respondent's operations which are conducted at the Property after the Effective Date, for at least ten years, following the Effective Date unless otherwise agreed to in writing by the Parties. At the end of ten years, the Settling Respondent shall notify EPA of the location of such documents and shall provide EPA with an opportunity to copy any documents at the expense of EPA.

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XIV. NOTICES AND SUBMISSIONS

39. Documents which must be submitted under this Agreement, if any, shall be sent by overnight delivery or certified mail, return receipt requested, to the following addressees or to any other addressees which the Settling Respondent and EPA designate in writing:

As to the EPA:

Christopher Black
Remediation and Reuse Branch
Land and Chemicals Division
United States Environmental Protection Agency
77 West Jackson Blvd., mail code: LU-9J
Chicago, Illinois 60604-3590
Phone: (312) 886-6945
FAX:
E-mail: black.christopher@epa.gov

Peter Felitti
Assistant Regional Counsel
United States Environmental Protection Agency
77 West Jackson Blvd., mail code: C-14J
Chicago, Illinois 60604-3590
Phone: (312) 886-5114
FAX: (312) 692-2495
E-mail: felitti.peter@epa.gov

As to the Settling Respondent:

Steve Montle
Mayor's Office
City of Flint
1101 South Saginaw Street
Flint, Michigan 48502
Telephone: (810) 237-2024
Fax: (810)
E-mail: smontle@cityofflint.com

Michael L. Robinson
Warner Norcross & Judd LLP
900 Fifth Third Center
111 Lyon Street, N.W.
Grand Rapids, Michigan 49503-2487

Phone: (616) 752-2128
Fax: (616) 222-2128
E-mail: mrobinson@wnj.com

XV. EFFECTIVE DATE

40. The Effective Date of this Agreement shall be the date upon which EPA issues written notice to the Settling Respondent and the State that EPA has fully executed the Agreement after review of and response to any public comments received and after Settling Respondent and the State have executed the Agreement.

XVI. TERMINATION

41. If EPA or Settling Respondent believes that any or all of the obligations under Sections IV (Work to be Performed) and Section V (Access/Cooperation) are no longer necessary to ensure compliance with the requirements of the Agreement, either of them may request in writing that the other agree to terminate the provision(s) establishing such obligations; provided, however, that the provision(s) in question shall continue in force unless and until the party requesting such termination receives written agreement from the other party to terminate such provision(s).

XVII. TRANSFER OF AGREEMENT BY THE UNITED STATES AND THE STATE

42. Upon completion of the following conditions, a transferee of all or a portion of the Property shall have all rights, duties and obligations under this Agreement, as specified below, including, but not limited to, any right under Section VIII (Covenants Not to Sue by the United States and the State):

a. at least thirty (30) days before the transfer, the transferee submits to U.S. EPA and the State an affidavit, such as that attached as Appendix 8, which identifies the transferee and the property to be transferred, describes the proposed transfer, and certifies that:

i. the transferee has not caused or contributed to the release or threat of release of any amount of the Existing Contamination;

ii. the transferee's use of the Property (or part of the Property, as the case may be) will not result in a release or threat of release of any Waste Material except in compliance with law;

iii. the transferee's use of the Property (or part of the Property, as the case may be) will not cause or contribute to the migration or new release of any Existing Contamination or any new threat to human health or the environment caused by any such release or threat of release; and

iv. the person signing the affidavit is fully authorized to make the foregoing certifications and to legally bind the transferee;

b. EPA and the State consent in writing to the transfer of the rights, benefits, and obligations conferred under the Agreement to the transferee. EPA and the State shall provide the transferee with its determination within sixty (60) days of receipt of transferee's affidavit; and

c. Prior to or simultaneous with the transfer of all or a portion of the Property, the transferee consents in writing to be bound by and perform, from the date of transfer, all of the terms and remaining obligations of the Agreement as through it were Settling Respondent or the applicable transferor.

If the transferee's affidavit is not materially accurate or complete, the Covenants Not to Sue by the United States and the State in Section VIII shall be null and void with respect to the

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transferee, and the United States and the State reserve all rights they may have against the transferee.

43. If all conditions in Paragraph 43 are satisfied, upon transfer of ownership of the Property, Settling Respondents shall be released from the obligations set forth in his Agreement.

44. A lessee or sub-lessee (collectively "lessee") on all or a portion of the Property shall have all rights under this Agreement, including, but not limited to, any right under Section VIII (Covenants Not to Sue by the United States and the State), by providing to EPA prior to the date of tenancy, the written certification set forth in the affidavit attached as Appendix 9. However, if the lessee's affidavit is not materially accurate or complete, the Covenant Not to Sue by the United States and the State in Section VIII shall be null and void with respect to the lessee, and the United States and the State reserve all rights they may have against the lessee. No rights under this Agreement shall apply to a lessee that does not timely provide such written certification.

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XVIII. CONTRIBUTION

45. The Settling Respondent agrees that with respect to any suit or claim for contribution brought by it for matters related to this Agreement, it will notify the United States in writing no later than sixty (60) days prior to the initiation of such suit or claim.

46. The Settling Respondent also agrees that with respect to any suit or claim for contribution brought against it for matters related to this Agreement, it will notify in writing the United States within ten (10) days of service of the complaint on it.

47. Settling Respondent shall have the contribution protection described in Section 324.20129(6). This is an administrative settlement.

XIX. APPENDICES

48. (a) Appendix 1 is a map of the Property which is the subject of this Agreement and a list of reports and documents which describe conditions at or regarding the Property.

(b) Appendix 2 is a description of the five parcels that make up the Property subject to this Agreement.

(c) Appendix 3 is a map of the Site.

(d) Appendix 4 is a map of the green corridor.

(e) Appendix 5 contains the two Work Plans.

(f) Appendix 6 is the Declaration of Restrictive Covenants.

(g) Appendix 7 is the Transfer Affidavit.

(h) Appendix 8 is the lessee affidavit.

XX. PUBLIC COMMENT

49. This Agreement shall be subject to notice in the Federal Register and a thirty-day public comment period, after which EPA may modify or withdraw its consent to this Agreement if comments received disclose facts or considerations that indicate this Agreement is inappropriate, improper, or inadequate.

IT IS SO AGREED:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BY:

Regional Administrator Date
U.S. EPA Region 5

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IT IS SO AGREED:

UNITED STATES DEPARTMENT OF JUSTICE

BY:

Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Date

IT IS SO AGREED:

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

BY:

Its:

Date

IT IS SO AGREED:

MICHIGAN DEPARTMENT OF ATTORNEY GENERAL

BY:

Its:

Date

IT IS SO AGREED:

BY:

SETTLING RESPONDENT Date

Appendix 1

Map of the Property that is the Subject of this Agreement

and List of Reports and Documents

Appendix 2

Description of Five Parcels making up the Property Subject to this Agreement

Property

The following described premises situated in the City of Flint, County of Genesee and the State of Michigan, to-wit:

Parcel 1:

A parcel bounded on the East by Chevrolet Avenue, on the North by Flint River, on the West by Center Street, and on the South by Grand Trunk Western Railroad.

Part of Lots 14 and 15, Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6, Page 6, Genesee County, Michigan Records; also part of Lots 5 and 6, Peter O'Conner's Subdivision of part of Lot 1 of Thayer and Wright's Outlots, as recorded in Deed Liber 83, Page 0 and transcribed in Plat Liber 14, Page 20, Genesee County, Michigan Records; also part of Outlot 1 of Thayer and Wright's Outlots, Section 9, Smith's Reservation, as recorded in Deed Liber 25, Page 639, and transcribed in Plat Liber 6, Page 12, Genesee County, Michigan Records; also part of Lots 13 through 17, Block 2 and Lots 18 through 21, Block 3, all in Thurber's Addition to West Flint, as recorded in Deed Liber 68, Page 616, Genesee County, Michigan Records; also including part of vacated Kearsley Street, Garden Street, Pershing Street, and Joyner Street, City of Flint, Genesee County, Michigan described as follows: Commencing at the intersection of the Southerly Line of Hasselbring Street, so-called, with the Westerly Line of Chevrolet Avenue, so-called; thence Southerly, along said Westerly Line of Chevrolet Avenue, S 31°30'53" E 398.51 feet AND S 61°01'48" E 26.74 feet AND S 31°06'17" E 227.89 feet to the place of beginning, being the intersection of the said Westerly Line with the Northerly Face of an existing retaining Wall at the Southerly Bank of the Flint River; thence S 83°25'21" W, along said Northerly Face, 27.47 feet to an angle point in said Wall; thence continuing along said Northerly Face, S 59°46'45" W 584.07 feet to an angle point in said Wall; thence S 09°58'57" E, along the Westerly Face of said Wall, 31.72 feet to the Southerly Face of an existing Retaining Wall; thence along said Southern Face, on a curve to the right, having a radius of 661.26 feet, an arc length of 256.41, with a chord bearing and distance of S 72°28'20" W 254.81 feet AND S 83°34'53" W 90.0 feet to the Easterly Line of Center Street, so-called; thence Southerly along the said Easterly Line to a point being S 00°48'30" E 19.19 feet from the intersection of the said Easterly Line of Center Street with the Centerline of Joyner Street, so-called; thence N 87°22' E 126.16 feet; thence on a curve to the left, having a radius of 15,416.74 feet, with a chord bearing and distance of N 86°47'30" E 304.96 feet to the intersection of the Easterly Line of Pershing Street, so-called, with the said Centerline of Joyner Street extended Easterly; thence Southerly, along the said Easterly Line of Pershing Street, to the Northerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Easterly, along said Railroad Right-of-Way, to the Westerly Line of said Chevrolet Avenue; thence Northerly, along said Westerly Line, to the place of beginning.

Parcel 2:

A parcel bounded on the East by Stevenson Street, on the North by Flint River, on the West by Chevrolet Avenue, and on the South by Grand Trunk Western Railroad.

Part of Lots 7 through 14, Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6,, Page 6, Genesee County, Michigan Records; also part of Lots 11 through 26, Robinson Place, as recorded in Plat Liber 1, Page 28, Genesee County, Michigan Records; also part of Lots 1 through 6, Block 3, McFarlan's Addition to West Flint, as recorded in Deed Liber 82, Page 0, Genesee County, Michigan Records; also part of Lots 6 through 11, Ephraim S. Williams Subdivision, as recorded in Deed Liber 84, Page 9, and transcribed in Plat Liber 14, Page 32, Genesee County, Michigan Records; also part of Bang's Replat of part of Blocks 6 and 8, McFarlan and Co.'s Cottage Grove Addition, as recorded in Plat Liber 4, Page 21, Genesee County, Michigan Records; also including part of vacated Kearsley Street, Robinson Place Street and McFadden Street, City of Flint, Genesee County, Michigan described as follows: Beginning at a point on the Westerly Line of Stevenson Street, so-called, which is S 41°04'05" E 257.19 feet from the intersection of said Westerly Line with the Southerly Line of Bluff Street, so-called, being at the Southerly Bank of the Flint River; thence Westerly, along said Southerly Bank, S 59°21'35" W 98.48 feet AND S 42°39'38" W 104.4 feet AND S 59°21'35" W 412.66 feet AND S 40°55'29" W 79.06 feet AND S 30°25'01" W 50.16 feet AND S 20°32'57" W 94.23 feet AND S 03°06'40" W 331.01 feet AND N 81°35'08" W 18.08 feet AND S 03°06'40" W 41.75 feet AND S 08°24'52" W 83.83 feet AND S 81°35'08" E 15 feet AND S 08°24'52" W 85.02 feet AND S 31°25' W 187.98 feet AND S 51°23'05" W 68.90 feet AND N 38°36'55" W 15 feet AND S 51°23'05" W 259.5 feet AND S 59°24'07" W 486.09 feet to the Easterly Line of Chevrolet Avenue, so-called; thence Southerly, along said Easterly Line, to the Northerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Easterly, along said Railroad Right-of-Way, N 58°05'06" E 146.50 feet AND S 31°54'54" E 6.0 feet AND N 58°05'06" E 288 feet AND N 79°40'49" E 51.62 feet AND N 58°05'06" E 209.30 feet AND on a curve to the left, having a radius of 1465.70 feet, with a chord bearing and distance of N 55°36'48" E 5.61 feet AND on a curve to the left, having a radius of 1465.70 feet, with a chord bearing and distance of N 48°07'48" E 376.20 feet AND on a curve to the left, having a radius of 789.74 feet, with a chord bearing and distance of N 31°46'35" E 79.73 feet AND on a curve to the left, having a radius of 1687.59 feet, with a chord bearing and distance of N 25°40'04" E 189.30 feet AND N 04°52'22" E 69.17 feet to the Southerly Line of Kearsley Street, so-called; thence continuing Easterly, along said Railroad Right-of-Way, to the Westerly Line of said Stevenson Street; thence Northerly, along said Westerly Line, to the place of beginning.

Parcel 3:

A parcel bounded on the West by Chevrolet Avenue, on the North by Grand Trunk Western Railroad, on the East by Asylum Street, and on the South by Glenwood Avenue.

Part of Lots 7 through 13, Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6, Page 6, Genesee County, Michigan Records; also part of Lots 1 through 6, 11, and 12, Ephraim S. Williams Subdivision, as recorded in Deed Liber 84, Page 0, and transcribed in Plat Liber 14, Page 32, Genesee County, Michigan Records; also including part of vacated Kearsley Street, City of Flint, Genesee County, Michigan, described as follows: Beginning at a point on the Northerly Line of Glenwood Avenue, so-called, which is S 52°15'02" W 152.22 feet from the Southeasterly Corner of Lot 13, Block 1, of said West Flint; thence on a curve to the right, having a radius of 25.00 feet, a central angle of 93°51'00, with a chord bearing and distance of N 80°49'28" W 36.52 feet to the Easterly Lien of Chevrolet Avenue, so-called; thence N 33°53'58" W, along said Easterly Line, 157.69 feet to the Southerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Easterly, along said Railroad Right-of-Way, N 56°42'17" E 65.30 feet AND N 75°09'53" E 29.69 feet AND N 65°56'06" E 67.60 feet AND N 61°42'38" E 60.43 feet AND N 60°54'10" E 299.93 feet AND N 61°15'50" E 207.57 feet AND N 55°56'48" E 48.28 feet AND N 50°01'12" E 109.47 feet AND N 45°11'08" E 88.57 feet AND N 42°33'04" E 125.24 feet AND N 31°13'59" E 137.79 feet AND N 25°57'55" E 194.92 feet AND N 17°49'59" W 19.47 feet AND N 30°01'49" E 65.80 feet AND N 31°11'43" W 25.86 feet AND N 30°55'47" E 17.96 feet to the Southerly Line of Kearsley Street, so-called; thence continuing along said Railroad Right-of-Way to the Westerly Line of Asylum Street, so-called, extended Northerly; thence S 31°43'45" E, along said Westerly Line of Asylum Street and Line extended, to a point being 80 feet Northerly from the intersection of said Westerly Line with the Northerly Line of said Glenwood Avenue; thence S 60°15' W 80 feet; thence S 36°06'10" E 22.56 feet; thence S 60°15' W 90.26 feet; thence S 29°24'18" E 20 feet; thence S 60°15' W 50 feet to the Westerly Line of Lot 7, Block 1 of said West Flint; thence Southerly, along said Westerly Line, to the said Northerly Line of Glenwood Avenue; thence Westerly, along said Northerly Line, to the place of beginning.

Commonly known as	Parcel	Tax I.D. Number shown on 1999 Quit Claim Deed	Current Parcel Number
300 N. Chevrolet Avenue	1	10-13-301-005-8	4013301005
306 S. Stevenson St.	2	10-13-176-002-5	4013176002
Glenwood Ave.	3	10-13-326-005-4	4013326005

Parcel 4:

A parcel bounded on the West by Stevenson Street, on the North and East by the Flint River and on the South by Grand Trunk Western Railroad.

Part of Lots 1 through 5, Block 1 and Lots 1 through 14, Block 2, all in McFarlan's Addition to West Flint, as recorded in Deed Liber 82, Page 0, Genesee County, Michigan Records; also part of Block C, McFarlan and Co.'s Cottage Grove Addition, as recorded in Deed Liber 79, Page 0, and transcribed in Plat Liber 18, Page 13, Genesee County, Michigan Records; also part of Block 1, West Flint, as recorded in Deed Liber 33, Page 642, and transcribed in Plat Liber 6, Page 6, Genesee County, Michigan Records; also part of Section 8, Plat of Section 2, 3, 4, 5, 6, and 8, being part of the Reserve at near The Grand Traverse on Flint River, as recorded in Plat Liber 1, Page 5, Genesee County, Michigan Records; also including part of vacated Stewart Street, Whaley Street, and Mill Street, City of Flint, Genesee County, Michigan, described as follows: Beginning at a point on the Easterly Line of Stevenson Street, so-called, which is S 40°38'13" E 257.97 feet from the intersection of said Easterly Line with the Southerly Line of Bluff Street, so-called, being at the Southerly Bank of the Flint River; thence Easterly, along said Southerly Bank, N 59°21'35" E 147.73 feet AND N 89°46'17" E 59.26 feet AND N 47°23'01" E 168.67 feet AND N 15°46'06" E 55.23 feet AND N 14°11'26" E 122.46 feet AND N 38°11'30" E 118.10 feet AND N 58°07'18" E 124.97 feet AND S 85°19'47" E 14.20 feet AND N 08°19'03" W to the Southerly Edge of the Flint River; thence Easterly and Southerly, along the said Southerly Edge of the Flint River, to the Northerly Line of the Grand Trunk Western Railroad Right-of-Way; thence Westerly, along said Railroad Right-of-Way, to the said Easterly Line of Stevenson Street; thence Northerly, along said Easterly Line, to the place of beginning.

Parcel 5:

A parcel bounded on the West by Stevenson Street, on the North by Grand Trunk Western Railroad, on the East by Thread Creek, and on the South by Kearsley Street.

Part of Lots 6 through 15, Block 1 and Lot 1 and Lots 3 through 10, Block 4 and Lots 1 through 10, Block 5 and Lots 1 through 6, Block 6 and Lots 1 through 6, Block 7 and including part of vacated streets and alleys in and between the said Blocks, all in McFarlan's Addition to West Flint, as recorded in Deed Liber 82, Page 0, Genesee County, Michigan Records; also part of Section 8, Plat of Section 2, 3, 4, 5, 6, and 8, being part of the Reserve at near The Grand Traverse on Flint River, as recorded in Plat Liber 1, Page 5, Genesee County, Michigan Records, City of Flint, Genesee County, Michigan described as follows: Beginning at a point on the Northerly Line of Kearsley Street, so-called, which is N 60°51' E 128.50 feet from the intersection of said Northerly Line with the Easterly Line of Stevenson Street, so-called, also being the Southwesterly Corner of Block 7, of said McFarlan's Addition to West Flint; thence S 67°41'34" W 62.95 feet; thence S 60°51' W 29.70 feet; thence on a curve to the right, having a radius of 20 feet, a central angle of 89°35', having a chord bearing and distance of N 74°21'30" W 28.18 feet; thence N 29°34' W 69.76 feet; thence N 36°24'34" W 138.49 feet to the said Easterly Line of Stevenson Street; thence Northerly, along said Easterly Line, to the Southerly Line of the Grand Trunk Western Railroad Right-of-Way, being 10.7 feet Northerly of the Southwesterly Corner of Lot 4, Block 4, of said McFarlan's Addition to West Flint; thence Easterly, along said Southerly Line of the Grand Trunk Western Railroad Right-of-Way, to a

point on the Easterly Line of vacated Whaley Street, so-called, which is 25 feet Northerly of the Southwesterly Corner of Lot 6, Block 1, of said McFarlan's Addition to West Flint; thence continuing Easterly, along said Railroad Right-of-Way, to a point being 66.41 feet Westerly of the intersection of said Railroad Right-of-Way with the Easterly line of Island Street, so-called, also being at the Easterly Bank of Thread Creek; thence Southerly, along said Easterly Bank, S 05°30'50" E 55.99 feet AND S 05°30'51" W 15.76 feet AND S 02°13'35" W 77.91 feet AND S 08°08'40" E 175.00 feet AND on a curve to the left, having a radius of 121.81 feet, with a chord bearing and distance of S 21°58'48" E 58.26 feet AND S 35°48'55" E 111.08 feet to the said Northerly Line of Kearsley Street, being S 58°13'55" W 116.05 feet AND S 60°16'59" W 115.86 feet from the intersection of said Northerly Line of Kearsley Street with the Westerly Line of said Island Street; thence Westerly, along said Northerly Line of Kearsley Street, to the place of beginning.

Parcel 4: Commonly known as: 307 S. Stevenson St.
Tax I.D. Number: 00-13-251-004-9 or 4013251004

Parcel 5: Commonly known as: 300 N. Chevrolet Avenue
Tax I.D. Number: 10-13-251-011 or 4013251011

4981850-11

From: Shekter Smith, Liane (DEQ)
Sent: Friday, November 20, 2015 5:35 PM
To: Hess, Elmer (OAG);Brandon, McAndrew (OAG)
Cc: Sygo, Jim (DEQ)
Subject: VA Tech sampling protocol
Attachments: Flint (MI) Kit Instructions FINAL.PDF

As requested. The attached document was forwarded to me as the VA Tech protocol.

As a reminder, this sampling protocol is not for compliance sampling purposes, but more for an exposure assessment.

Liane

WATER SAMPLING KIT FOR LEAD

Read these instructions the day before filling bottles!

Step 0. Plan ahead. It is ***very*** important to collect water **after allowing it to sit in your pipe for at least 6 hours**. To do so easily, water should be collected first thing in the morning (after no one uses the water overnight).

Step 1. After the water was not used for at least 6 hours, open the kit and remove the plastic caps from all three bottles.

Step 2. With the largest bottle #1 (1 liter) held under the kitchen or bathroom tap, open the cold water tap and fill the bottle at high flow (as if you were filling a pitcher of water). Place the filled large bottle on the counter while letting water continue to flow normally.

Step 3. Let water run for 45 seconds after the first bottle was filled, and then place the medium size bottle #2 under the faucet to catch the water and fill the bottle. Put the filled medium size bottle on the counter while allowing the water to continue to flow.



Step 4. Let the water run for another 2 minutes after the second bottle was filled, and then place the smallest bottle #3 under the faucet to catch the water and fill the bottle. Put the small size bottle on the counter.

Step 5. Turn off the flow, put caps on each bottle, and firmly tighten the caps.

Step 6. Place the bottles into the zip-lock bag that is provided. Seal the zip lock bag and place the bag (with bottles inside) into the box that is provided (see picture).

Step 7. Fill out the information below, so that we can mail you the results after we analyze the samples for lead.

Name: _____

Address: _____

City/State/Zip: _____

E-mail: _____

Phone: _____

Date Sample Collected: _____

Year House Constructed (if known): _____ Do you use a water softener or a filter? _____

Step 8. Put this sheet into the box, tape the box shut and then return it to your collection point so it can be shipped to Virginia Tech.

Call Jeff Parks at 540-392-4781 if you have any questions regarding these instructions.

From: LeeWalters <
Sent: Sunday, December 20, 2015 6:10 PM
To: Sygo, Jim (DEQ)
Subject: Update?

Mr. Sygo
The last time I emailed you there were things you were looking into it. Are the any updates on the Y at the plant and blending the lake and river water once the KWA is online? Also why is the the Flint River being used as the emergency water source after everything that has happened? How does it make sense in an emergency to go from lake water to river water again after all the damage to the pipes. Are there any tests to assure that now that the pipes are damaged that if we keep switching back and forth it won't cause further damage to the citizens and to the infrastructure? I look forward to hearing from you.

Respectfully
LeeAnne Walters

From: Sygo, Jim (DEQ)
Sent: Wednesday, November 04, 2015 12:09 PM
To: Manning, Peter (AG)
Subject: Fwd: HEADS-UP: Clarifications regarding the application of optimal corrosion control requirements of the lead and copper rule
Attachments: image2015-11-03-155158.pdf; ATT00001.htm

See if it showed up this time. If not will send it when I get back to the office.

Sent from my iPhone

Begin forwarded message:

> **From:** "Hyde, Tinka" <hyde.tinka@epa.gov>
> **To:** "Willhite, Marcia" <Marcia.Willhite@Illinois.gov>, "Dave.McMillan@illinois.gov" <Dave.McMillan@illinois.gov>, "CLARK METTLER, MARTHA" <MCLARK@idem.IN.gov>, "Sygo, Jim (DEQ)" <SygoJ@michigan.gov>, "Monosmith, Carrie (DEQ)" <MONOSMITHC@michigan.gov>, "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>, "randy.ellingboe@state.mn.us" <randy.ellingboe@state.mn.us>, "mike.baker@epa.state.oh.us" <mike.baker@epa.state.oh.us>, "jill.jonas@wisconsin.gov" <jill.jonas@wisconsin.gov>, "Patrick.Stevens@Wisconsin.gov" <Patrick.Stevens@Wisconsin.gov>
> **Cc:** "Henry, Timothy" <henry.timothy@epa.gov>, "Poy, Thomas" <poy.thomas@epa.gov>
> **Subject: HEADS-UP: Clarifications regarding the application of optimal corrosion control requirements of the lead and copper rule**
>
> Hi All - Please see the attached memo which provides important clarifications regarding the application of the optimal corrosion control requirements of the lead and copper rule when a large water system ceases to purchase treated water and switches to a new drinking water source. If you have any questions or concerns related to this memo, please contact me or have your staff contact Tom Poy, Chief of the of the Ground Water and Drinking Water Branch at poy.thomas@epa.gov. Thanks
>
> Tinka G. Hyde
> Water Division Director
> USEPA W-15J
> 77 W. Jackson Blvd
> Chicago, IL 60604
>
> Office: 312-886-9296
> Cell: PPI

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

NOV 03 2015

MEMORANDUM

SUBJECT: Lead and Copper Rule Requirements for Optimal Corrosion Control Treatment for Large Drinking Water Systems

FROM: Peter C. Grevatt, Director
Office of Ground Water and Drinking Water

TO: EPA Regional Water Division Directors, Regions I-X

This memorandum addresses certain concerns raised about the application of the 1991 Lead and Copper Rule, specifically the requirements pertaining to maintenance of optimal corrosion control treatment, in situations in which a large water system ceases to purchase treated water and switches to a new drinking water source. These concerns have been raised most recently in regard to the drinking water system in Flint, Michigan, where the water system was disconnected from the Detroit Water and Sewerage Department, which provided corrosion control treatment for Lake Huron source waters, and instead began distributing water from the Flint River. This type of situation rarely arises and the language of the LCR does not specifically discuss such circumstances. After reviewing the rule with our Office of General Counsel, it appears that there are differing possible interpretations of the LCR with respect to how the rule's optimal corrosion control treatment procedures apply to this situation, which may have led to some uncertainty with respect to the Flint water system. This memorandum clarifies how the LCR applies to this situation and eliminates the uncertainty for water systems and primacy agencies that may face these circumstances in the future.

It is important for large systems and primacy agencies[1] to take the steps necessary to ensure that appropriate corrosion control treatment is maintained at all times, thus ensuring that public health is protected. This memorandum focuses on those steps and clarifies, on a prospective basis, how EPA interprets the LCR corrosion control requirements and how primacy agencies should apply these requirements to large public water systems before, during and after making a significant change in source water, including switching from purchased water to a new source.

Under the LCR, all large systems (those serving more than 50,000 persons), whether purchasing water or not, must have completed a series of steps to either optimize the corrosion control treatment or be deemed to have optimal corrosion control treatment (OCCT) by 1998. 40 CFR 141.81. Key steps for

[1] The term "primacy agency" refers to the State, tribe or U.S. Environmental Protection Agency regional office having jurisdiction over, and primary enforcement responsibility for, a given public water system.

optimizing corrosion control include monitoring, corrosion control studies, installation of treatment, follow-up sampling and specification by the primacy agency of water quality parameters (WQPs) for monitoring corrosion control. The LCR requires any large system that has met the OCCT requirements through the installation of corrosion control treatment to continue operating and maintaining the treatment and to continue meeting the WQPs established by the primacy agency. 40 CFR 141.81(b) and 141.82(g). Systems deemed to have OCCT without the installation of corrosion control treatment are not subject to this requirement. However, they are required to notify the primacy agency in writing of any upcoming changes in treatment or source and request that the primacy agency modify its determination of the OCCT and WQPs applicable to the system. The primacy agency must then review and approve the change and designate OCCT and WQPs prior to its implementation by the system. 141.81(b)(3). Similarly, systems subject to reduced monitoring or monitoring waivers must notify the primacy agency of any upcoming changes in treatment or source and the primacy agency must subsequently review and approve it. EPA recommends that systems that are not subject to a notification requirement also notify the primacy agency prior to the addition of a new source or treatment and request the primacy agency to modify its determination of the optimal corrosion control and WQPs applicable to the system.

Due to the unique characteristics of each PWS (e.g., source water, existing treatment processes, distribution system materials) it is critical that public water systems, in conjunction with their primacy agencies and, if necessary, outside technical consultants, evaluate and address potential impacts resulting from treatment and/or source water changes. It is also critical for public water systems to conduct ongoing monitoring to ensure compliance with OCCT prior to, during and after a source or treatment change. The rearrangement of a system's existing configuration may trigger the need for OCCT adjustments and establishment of appropriate WQPs. Primacy agencies should work with systems that plan to disconnect from a supplier that had installed corrosion control treatment to determine the OCCT for the new source and establish WQPS for that treatment instead of using the OCCT and WQPs established for the previous source. This will allow a system that ceases to purchase treated water to stay in compliance with any applicable requirements pertaining to OCCT and ensure protection of public health during and after the change in source. EPA has developed a guidance manual[2] specifically focusing on evaluation of corrosion control treatment options and optimization of full-scale treatment to assist water systems and primacy agencies with these efforts. EPA is currently preparing an updated version of the manual, which we anticipate will be released in February 2016.

The key to identifying and mitigating potential problems is to ensure effective collaboration between the public water system and the primacy agency. Corrosion control treatment can come in many forms. For this reason, it is important to conduct a system-wide assessment prior to any source water and/or treatment modifications and to identify existing or anticipated water quality, treatment or operational issues that may interfere with or limit the effectiveness of corrosion control treatment optimization or re-optimization.

If you have additional questions or concerns, please contact me or have your staff contact Maria Lopez Carbo, Chief of the Protection Branch, in the Office of Ground Water and Drinking Water, at lopez-carbo.maria@epa.gov.

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[2] U.S. Environmental Protection Agency. *Lead and Copper Rule Guidance Manual, Volume II: Corrosion Control Treatment.* Office of Water. EPA 811-B-92-002. 1992. Available at: http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=91019DM4.txt.

This Document is a Non-Responsive Attachment.

From: Butler, Sonya (DEQ)
Sent: Tuesday, September 15, 2015 9:49 AM
To: Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ);Busch, Stephen (DEQ)
Cc: Fitzner, Wendy (DEQ);Green, Kelly (DEQ)
Subject: FW: flint article

FYI

From: Marquardt, Steve [mailto:marquardt.steve@epa.gov]
Sent: Tuesday, September 15, 2015 9:36 AM
To: Butler, Sonya (DEQ)
Cc: Cossa, Laura; Baltazar, Debbie
Subject: flint article

FLINT, MI — Mayor Dayne Walling is asking Gov. Rick Snyder for $30 million to upgrade Flint's water system, including $10 million to remove lead service pipes and plumbing susceptible to leaching lead.

Walling, speaking to the City Council on Monday, Sept. 14, announced the request, made in a letter to the governor the same day.

"We need every available expert and resource to address Flint's water problems," Walling's letter says.

"Flint's safety is my top priority. Just as the city and state have worked together on public safety, we need additional support for fixing the water problems. We need $30 million in new funds to repair and update the city-wide infrastructure and to assist households in becoming lead-free."

Walling's letter comes the day before a professor from Virginia Tech University is scheduled to speak at a town hall meeting in Flint about the results of a study of lead in the city's drinking water.

The meeting is from 6-8 p.m. Tuesday, Sept. 15, in Saints of God Church, 2200 Forest Hill Ave.

Researchers from Virginia Tech last week advised Flint residents not to drink or cook with tap water here without flushing lines before each use or using a filter to remove lead.

Virginia Tech students and faculty have posted the results of 252 water tests from Flint online, concluding the city has "a very serious lead-in-water problem."

Testing so far has shown 10 percent of the water samples from across the city have 25 parts per billion of lead or more — far more than the allowable level, 15 ppb, set in federal guidelines.

City and state officials have said they have not seen such high lead levels in their own tests of more than 150 homes in the city since April 2014.

Walling spoke about his letter to Snyder as part of a water presentation that included City Administrator Natasha Henderson and Department of Public Works Director Howard Croft.

Croft said the city has made important upgrades to its water treatment and transmission systems in the short time since it began using the Flint River as its water source in April 2014.

The DPW director said the city has a draft copy of a plan for making Flint water less corrosive and less likely to result in high amounts of lead in the water supply.

Walling has been successful in securing state money for Flint's water system previously.

In February, Snyder awarded Flint $2 million to find leaks in city water lines and to replace a wastewater incinerator — moves officials said would free up money for improving the quality of city water.

Walling's request and remarks did not impress Flint Councilman Eric Mays, who left the council table and did not vote to endorse the mayor's letter to the governor.

The council voted 8-0, with Mays absent, to endorse the letter.

Mays called Walling's comments and letter "nothing more than a media show ... a horse and pony show."

Steve Marquardt
USEPA Region 5
77 West Jackson Blvd
Chicago, Illinois 60604
(312)353-3214

From: Yelton, Lori (MDARD)
Sent: Thursday, October 01, 2015 8:43 AM
To: Butler, Sonya (DEQ)
Cc: Devereaux, Tracy Jo (DEQ);Shekter Smith, Liane (DEQ);Benzie, Richard (DEQ);Busch, Stephen (DEQ)
Subject: RE: IMPORTANT - Flint Community Schools and Contaminated Water (LEAD)

Thanks you for your reply and time looking into the request. I will let MDE know.

Lori Yelton, MS. RDN.
yeltonl@michigan.gov
517-420-3249

Don't forget to mark your calendars for the Farmers Market at the Capitol, July 30, August 27 and September 24

From: Butler, Sonya (DEQ)
Sent: Thursday, October 1, 2015 8:35 AM
To: Yelton, Lori (MDARD) <YeltonL@michigan.gov>
Cc: Devereaux, Tracy Jo (DEQ) <DEVEREAUXT@michigan.gov>; Shekter Smith, Liane (DEQ) <SHEKTERL@michigan.gov>; Benzie, Richard (DEQ) <BENZIER@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>
Subject: RE: IMPORTANT - Flint Community Schools and Contaminated Water (LEAD)

Ms. Yelton

I am not aware of any program to provide funding for bottled water. DEQ does have a Drinking Water Revolving Fund program that provides low interest infrastructure loans to communities to address public health/water quality issues. Unfortunately, the program does not provide bottled water.

From: Yelton, Lori (MDARD)
Sent: Wednesday, September 30, 2015 10:28 AM
To: Devereaux, Tracy Jo (DEQ)
Subject: FW: IMPORTANT - Flint Community Schools and Contaminated Water (LEAD)
Importance: High

Hi Tracy Jo,
I have received a request from MDE Nutrition Support Services regarding funding for bottled water for schools in Flint. Can you direct me to the correct person or tell me if DEQ has any funding for Flint schools and bottled water? Please see thread of messages below.
Thank you for this consideration,

Lori Yelton, MS. RDN.
yeltonl@michigan.gov
517-420-3249

Don't forget to mark your calendars for the Farmers Market at the Capitol, July 30, August 27 and September 24

From: Moss, Marla (MDE)
Sent: Wednesday, September 30, 2015 8:18 AM

To: Yelton, Lori (MDARD) <YeltonL@michigan.gov>
Cc: Golzynski, Diane (MDE) <GolzynskiD@michigan.gov>
Subject: FW: IMPORTANT - Flint Community Schools and Contaminated Water (LEAD)
Importance: High

See below -- any ideas for Flint schools? Funding streams...etc? Any help appreciated.

Marla J. Moss, Director
Office of School Support Services
Phone -- 517-373-2313
Mossm1@michigan.gov

Customer Service is a priority at the Michigan Department of Education – helping Michigan schools, families, and communities improve the achievement and well-being of ALL our children.

MICHIGAN Department of Education

From: Fletcher, Vista - FNS [mailto:Vista.Fletcher@fns.usda.gov]
Sent: Wednesday, September 30, 2015 7:52 AM
To: Moss, Marla (MDE) <MossM1@michigan.gov>
Cc: Guerrant, Kyle (MDE) <GuerrantK@michigan.gov>; Golzynski, Diane (MDE) <GolzynskiD@michigan.gov>; Dixon, Janice (MDE) <DixonJ5@michigan.gov>; Houseman, Jennifer (MDE) <HousemanJ1@michigan.gov>; Mikkelson, Julie - FNS <JULIE.MIKKELSON@fns.usda.gov>; Thompson, Eleanor - FNS <Eleanor.Thompson@fns.usda.gov>
Subject: RE: IMPORTANT - Flint Community Schools and Contaminated Water (LEAD)

Hi Marla,

We will have some discussions and do something checking and will get back to you today on this.

Thanks,
VSF

From: Moss, Marla (MDE) [mailto:MossM1@michigan.gov]
Sent: Wednesday, September 30, 2015 6:49 AM
To: Mikkelson, Julie - FNS; Fletcher, Vista - FNS; Thompson, Eleanor - FNS
Cc: Guerrant, Kyle (MDE); Golzynski, Diane (MDE); Dixon, Janice (MDE); Houseman, Jennifer (MDE)
Subject: IMPORTANT - Flint Community Schools and Contaminated Water (LEAD)
Importance: High

Julie/Vista/Eleanor – we have been asked if our SAE dollars could be used to purchase water for Flint Community Schools. I know that serving water to students is a requirement of the HHFKA. See the link below - http://www.mlive.com/news/flint/index.ssf/2015/09/flint_superintendent_looking_t.html

Or, do you know of any other existing funds within USDA that we could tap?

I'm looking for a quick reply - any information is appreciated. Thanks.

Marla J. Moss, Director
Office of School Support Services
Phone – 517-373-2313
Mossm1@michigan.gov

Customer Service is a priority at the Michigan Department of Education – helping Michigan schools, families, and communities improve the achievement and well-being of ALL our children.

From: Benzie, Richard (DEQ)
Sent: Saturday, October 17, 2015 2:11 PM
To: Shekter Smith, Liane (DEQ);Busch, Stephen (DEQ)
Subject: Re: 3rd Quarter Water Report

This may be an opportunity to mention the procedure for sampling childcare centers for lead in Milwaukee that was approved by Region 5. I believe that was the program that instituted a 5 minute flush for taps on the day prior to sampling.

From: Shekter Smith, Liane (DEQ)
Sent: Friday, October 16, 2015 11:45:54 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ); Cook, Pat (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: FW: 3rd Quarter Water Report

From: Krisztian, George (DEQ)
Sent: Friday, October 16, 2015 6:54 AM
To: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ)
Cc: Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: FW: 3rd Quarter Water Report

FYI

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph PPI

From: Marc Edwards [mailto:edwardsm@vt.edu]
Sent: Thursday, October 15, 2015 7:29 PM
To: 'Howard Croft'; 'Laura Sullivan'
Cc: 'Gerald (Jed) Natzke'; 'Andy Leavitt'; 'Amy Hovey'; 'Brent Wright'; 'Lytle, Darren'; 'Flint Mayor'; 'donna.cole'; Dykema, Linda D. (DHHS); Krisztian, George (DEQ); 'Henry, James'; 'James Gaskin'; 'Jason Lorenz'; 'jmikewright'; 'JoAnne Herman'; 'John O'Brien'; 'Kirk Smith'; larry.koehler@mcc.edu; 'Lawrence Reynolds'; 'Lawrence Reynolds'; 'Michael Glasgow'; 'Wright, Michael'; 'Lane, Mike'; Prysby, Mike (DEQ); 'Natasha Henderson'; 'Norb Birchmeier'; 'Pete Levine'; 'Robert Bincsik'; rosejo@msu.edu; 'Russell Hudson'; 'Samir Matta'; schock.michael@epa.gov; 'Sean Kammer'; Busch, Stephen (DEQ); 'Warren Green'; Wurfel, Brad (DEQ); 'Anthony Chubb'; 'Kevin Keane'
Subject: RE: 3rd Quarter Water Report

I have gotten a lot of questions about this., so figured I would answer in one e-mail.

The city is still using the MDEQ sampling approach. That method takes the EPA sampling method, and adds two modifications, both of which are technically legal, but "miss" lead in water that is normally present when people use it. I have been trying to get these modifications banned since 2007, because they give a false low

measurement of lead in water risks on the day you sample. As a result, a city can be meeting the EPA rule, technically, and still have a huge problem with elevated blood lead in children.

The two modifications are:

1) **Using a sample bottle with a tiny opening**. This forces consumers to fill the bottles at a very low flow rate. The net effect of this, is that particulate Pb that would normally flow into a consumers water glass at a normal flow rate, stays on the pipe when you sample for lead. When a consumer fills a glass or collects water for drinking, the particles fall off.
2) **Pre-cleaning the pipes the night before sampling (aka. Pre-flush).** This basically remediates and sweeps the pipe clean of lead the night before sampling, so that the next morning when you sample, you get unusually low lead. The sampling protocol used by MDEQ requires a **5 minute pre-cleaning.**

When Virginia Tech sampled in Flint, we used the EPA protocol, without the modifications that miss lead in water problems.

I hope this explains the discrepancy. The MDEQ approach could give people a result for 0 ppb lead in water, and when they collect a sample for cooking or drinking it can be 100 ppb. I have seen it happen. **No one who is getting a low result using the MDEQ approach, should be told their water is safe to drink.** The result is meaningless. If it is high with the MDEQ approach, you have a very, very serious problem. MDEQ is also not the only primacy agency in the country using these methods that miss lead, so **I am not blaming anyone, I am just stating the facts.**

Miguel Del Toral of EPA warned MDEQ to stop using this method back in Apri-May in writing, because it would hide a lead problem if they existed, and they basically told him to mind his own business. I also asserted that Miguel was right, in the ACLU report in June. http://www.deadlinedetroit.com/articles/12697/scary_leaded_water_and_one_flint_family_s_toxic_nightmare#.ViA1Zn7nvIU

Best Regards, Marc

From: Benzie, Richard (DEQ)
Sent: Friday, April 18, 2014 9:34 AM
To: Busch, Stephen (DEQ)
Subject: Declined: Flint WTP Startup inspection

I declined this meeting because I don't plan to attend and I don't want it to block my calendar.